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AMERICAN ZOO AND
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Division of Docket Management
HFA-305
Food and Drug Administration
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Re: Docket No. 2003N-0400. Interim Final Rule: Control of Communicable Diseases; Restrictions on African Rodents, Prairie Dogs, and Certain Other Animals

Docket Manager:

The American Zoo and Aquarium Association (AZA) respectfully submits the following comments on Docket No. 2003N-0400. Interim Final Rule: Control of Communicable Diseases; Restrictions on African Rodents, Prairie Dogs, and Certain Other Animals.

In general, AZA supports the intent of the interim final rule as promulgated by the Food and Drug Administration (FDA) and the Centers for Disease Control (CDC) in response to the recent outbreak of monkeypox in the United States. AZA understands the delicate balance between the overriding need to protect human health and the need to allow private and public institutions to carry out their basic missions of education, science, research and recreation. However, we do have some general and specific comments and concerns regarding the interim final rule which are detailed below.

AZA would also like to use this opportunity to commend the FDA, the CDC, the U.S. Department of Agriculture, the U.S. Fish and Wildlife Service, Customs and the other Federal agencies involved in the quick isolation and control of the recent monkeypox outbreak in Summer 2003. The coordinated response by these agencies saved countless individuals and animals from uncertain medical complications. AZA would also like to commend FDA and CDC for their recognition that the monkeypox outbreak was a direct result of a potentially dangerous and largely unregulated exotic pet trade and for promulgating the necessary first-steps toward bringing this growing industry in check.

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AZA General Comments

AZA is a non-profit organization dedicated to the advancement of zoos and aquariums in the areas of animal care and husbandry, conservation, education, science and recreation. AZA's vision, and that of its member institutions, is to work cooperatively within and between institutions, as well as with threatened and endangered species' range countries around the world, to save and protect the wonders of our living natural world.

Collectively, AZA's accredited member institutions draw over 135 million visitors annually from around the world and have more than 5 million zoo and aquarium members. These institutions teach more than 12 million people each year in living classrooms, dedicate over \$50 million annually to education programs, invest over \$50 million annually in scientific research and support over 1300 field conservation and research projects in 80 countries.

There are currently over 2500 animal exhibitors licensed by the U.S. Department of Agriculture in the U.S. alone. Only 213 zoos and aquariums have met AZA's strict accreditation standards to become members of the Association, and are therefore the premier zoological parks and aquariums in North America. Accreditation involves a thorough review and inspection process by which zoos and aquariums are evaluated in order to become AZA members. Accreditation examines all aspects of an institution's operation, including the animal collection, veterinary care, physical facilities, safety, security, finance, staff, governing authority, support organization, education programs, conservation and research and adherence to the organizations' policies and standards.

AZA accredited zoological parks and aquariums cannot fulfill their important missions of conservation, education and science without living animals. Responsible management of living animal populations necessitates that some individuals be acquired and that others be removed from the collection at certain times for the purposes of genetic and geographic diversity. Therefore, the AZA maintains a strict acquisition & disposition policy that member institutions are required to adhere to, that addresses the complex issues and concerns of animals entering and leaving our collections.

Specifically, AZA requires that accredited institutions maintain high-quality quarantine protocols to ensure that any animal entering their collections are examined and maintained in secure facilities in order to control disease threats. Protocols are in place to quarantine all new arrivals under veterinary care, whether they come from across town or across the world. These protocols include veterinary exams, diagnostic testing as well as pathology examinations for any animals that die. **A copy of the AZA Accreditation Standards is attached.**

The ability to effectively and efficiently transport animals is critical to the success of national and international efforts to conserve and maintain animal species. In the case of AZA accredited zoos and aquariums, the movement of animals between our member institutions, between our

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institutions and other international zoological parks and aquariums worldwide, and from native habitats and countries around the world into our institutions would be negatively impacted to a significant degree without cost-effective, safe and efficient transport. Without the domestic and international movement of animals, it would be next to impossible to expand or even sustain the tremendous progress that has been made in recent years by AZA institutions with regard to protecting numerous threatened and endangered animal species through our cooperative breeding programs and our support of native *in situ* programs around the world. In the case of prairie dogs, for example, due to relatively short life-spans and attrition it is conceivable that the captive population of animals could be extinct within the next 10 years without the addition of new bloodlines.

AZA Specific Comments

AZA appreciates the gravity of this final rule and its impact on human health and FDA's even-handed approach for allowing subsequent movement of listed animals (per FDA approval). However, we are still very concerned about our ability to transport listed animals for the purposes of public display, outreach education and cooperative breeding programs. Therefore, we would like to recommend the following modification to the rule:

FDA certification of AZA-accredited zoological parks based on appropriate quarantine protocols, veterinary care and testing, secured facilities and available modes of transportation. In specified situations determined by FDA, certified institutions would be allowed to move listed animals to other certified facilities within the United States provided that sufficient notice were given to FDA prior to any such movement. In the event of further monkeypox outbreaks however, such movements could be temporarily suspended by FDA.

This modification would provide additional assurances for AZA accredited institutions regarding the future movement of listed animals.

As CDC and FDA continue to formulate future policies to address the issue of infectious zoonotic diseases, I strongly encourage both agencies to call upon the informational resources and expertise of the American Zoo and Aquarium Association. Our resources can assist the agencies in developing effective, common-sense measures that can help protect both wildlife and the general public in the U.S. and abroad.

Thank you for the opportunity to review and comment on this important rule.

Regards,



Steven G. Olson

Director of Government Affairs

ACCREDITATION STANDARDS

These standards are formatted to follow the application/questionnaire and Visiting Committee report form. Placement of items in this document has no bearing on importance to accreditation processing as **ALL** areas are considered pertinent for the operation of a professional institution. **The numbers in brackets following the standards correspond with items appearing in the questionnaire [no italics] and/or Visiting Committee report form [italicized].**

While the words “should” and “must” are both used in these standards, under certain circumstances, the Commission may waive a “must” or strongly encourage the implementation of a “should.” Peer review, by both the Visiting Committee and the Accreditation Commission, will continue to allow certain levels of subjectivity.

Glossary of terms:

CEO/Director: The person with the authority and responsibility for the operation of the institution: other titles may include president, chief executive officer, superintendent, supervisor, manager, or other similar title.

Governing Authority: The agency which has authority for governing the operations of the institution: such may include city, county, state/provincial, or federal government bodies, or private corporation, foundation, society, or other similar entities.

Institution: A zoological park, aquarium, oceanarium, wildlife park, or similar facility that may qualify for accreditation

Accreditation Standards

GOVERNING AUTHORITY

General Considerations:

The governing authority must be supportive of the institution abiding by the AZA Code of Professional Ethics and Charter & Bylaws. *Explanation:* The Commission must be assured that an institution's governing authority understands and is willing to be supportive of the institution abiding by the AZA Code of Professional Ethics and Charter & Bylaws.

The governing authority must recognize and support the institution's goals and objectives.

- ▶ The lines of communication between the CEO/Director and the governing authority should be clearly defined. Additionally, the governing authority should be structured so that its relationship to the professional staff is clearly understood and followed. [GA-1, GA-3, S-8]

Explanation: If clear lines of communication do not exist, a breakdown in the operation of the institution and care of the animal collection could occur. It is essential to have a good working relationship between the governing authority, CEO/Director, and staff.

- ▶ The governing authority has the responsibility for policy matters and oversight of the institution. The CEO/Director must be responsible for the day-to-day management of the institution, including animal acquisitions/dispositions, staff, and programs. [GA-1, GA-2]

Explanation: While the governing authority should have input, the decisions regarding the animal collection are best left to the professionals who are specifically trained to handle the institution's animal collection, staff, and programs.

- ▶ The CEO/Director should be an ex officio member of the governing authority board or have the opportunity to attend meetings that would affect operations of the institution. [GA-6]

STAFF

- ▶ The financial information must include a breakdown of salaries or salary ranges for all full-time staff members. Staff salaries should be competitive with other related organizations in the local/regional area. [S-1]

NOTE: See S-1 in *Application/Questionnaire*

- ▶ In the event a CEO/Director has several "jobs" (i.e., also directs other areas of a park system), clear priorities must be established, with each job having separate and distinct descriptions. A CEO/Director should be available to the institution on a full-time basis (40 hours a week). [S-2, S-3]
- ▶ Institutions are responsible for ensuring that persons working with the animal collection receive training in animal care techniques. Staff members should receive opportunities for continuing education and training programs. [S-4, S-9, S-10, S-11, S-12, S-13]

Explanation: Staff members should be provided an opportunity to be educated/trained in current methods of animal care, husbandry, personnel management, public education, public relations, marketing, and other related areas. Funding should be provided for travel, meeting/conference participation, tuition, and other professional opportunities.

- ▶ A professional attitude in the working relationship between staff members should be maintained so as to enhance the operations of the institution. [S-7, S-8]
- ▶ Staff members should be encouraged to actively participate in AZA programs, as well as other programs developed by conservation-oriented organizations. [S-12]
- ▶ There must be an adequate number of trained staff to care for the animal collection and to conduct the institution's programs. [S-13]

Explanation: It is strongly recommended that two trained persons be available in the same area when working with elephants and venomous or other potentially dangerous animals.

Although there is no set formula for prescribing the size of the staff, the general condition of the collection and exhibits, and past staffing practices, may be used to define what is considered "adequate."

- ▶ Staff members should have access to the AZA Accreditation Standards (*Guide to Accreditation of Zoological Parks and Aquariums, and Accreditation Standards*) prior to processing for accreditation. It is also important to communicate with staff the importance of accreditation and what to expect during the accreditation process and Visiting Committee inspection. [S-14]

SUPPORT ORGANIZATION

- ▶ The terms establishing the working relationship between an institution and its support organization must be in writing and adhered to in practice. [SO-1, SO-4]
- ▶ A support organization must share the institution's goals and objectives. [SO-2]

Explanation: A support organization which has goals inconsistent with those of the institution may jeopardize the institution's work.

- ▶ The support organization must recognize the CEO/Director's overall responsibility for the management of the institution. [SO-4, SO-5]

Explanation: the CEO/Director should have final authority in matters affecting the institution.

FINANCE

- ▶ An institution, regardless of whether operating on a profit or nonprofit basis, must provide sufficient evidence of its financial stability by submitting complete financial reports, including an operating budget indicating that the financial support from the governing authority and/or support organization meets the needs of the institution. [F-1, F-2, F-4]

Explanation: Proof of financial support includes the submission of an operating budget reflecting sources of income, as well as expenses. It should also include contingency plans in the event that significant decreases in support are anticipated. In the case of financial reports other than audited statements, the Primary Reviewer or the Commission shall determine what constitutes *sufficient evidence*.

- ▶ Insurance coverage, via independent carrier or internal means, must be provided for visitors, staff, volunteers/docents, and physical facilities. [F-5]
- ▶ An institution should provide evidence of a capital improvements and maintenance program for the next five years and indicate sources of funding. [F-6, F-7, F-9, PF-8, PF-17, PF-18]

Explanation: Capital improvements include renovations, maintenance of buildings/grounds/exhibits, new construction, and demolition of outdated structures. The Commission and its Visiting Committees review all components of an institution, including walkways, driveways, and buildings—not just animal enclosures.

PHYSICAL FACILITIES**General Considerations:**

While the Commission is interested in the institution's future plans, accreditation will be based upon operations and facilities existing at the time of the Visiting Committee inspection.

All United States institutions should comply with the Americans with Disabilities Act.

- ▶ Good housekeeping must be regularly practiced. [PF-4, PF-9, PF-15, PF-16, PF-19, AC-26, AC-27, VC-13]

Explanation: Rodent control, proper drainage, clutter in work areas, and other housekeeping activities require continuous attention. Animal food must not be stored in the same area as animal drugs, nor with food for humans. Cadavers awaiting necropsy must be stored in a dedicated storage area.

- ▶ An institution must have holding facilities for the quarantine of newly arrived animals and isolation facilities for the treatment of sick/injured animals.
- ▶ Quarantine, hospital, and isolation areas must be in compliance with standards/guidelines adopted by the AZA (see pages 47 - 53). Hospital facilities should have x-ray equipment or have access to x-ray services. Written, formal procedures for quarantine must be available to all staff working with quarantined animals. [PF-5]
- ▶ If not in separate buildings, animal food preparation areas must be physically separated from other functions such as the animal hospital (including animal treatment, isolation, holding, deceased animal storage) and employee lounges. Animal food preparations must meet all local, state/provincial, and federal regulations. [PF-5, VC-17]

- ▶ Life-support systems for the animal collection, including but not limited to heating, cooling, aeration, and filtration, must be equipped with a warning mechanism, and emergency backup systems must be available. All mechanical equipment should be under a preventative maintenance program as evidenced through a record-keeping system. Special equipment should be maintained under a maintenance agreement, or a training record should show that staff members are trained for specified maintenance of special equipment. [PF-6, PF-10, PF-11, PF-23, SS-19]

Explanation: Facilities such as aquariums, tropical rainforest buildings, or other exhibits which rely on climate control for life-sustaining conditions must have emergency backup systems and a mechanism for warning if those systems are malfunctioning.

- ▶ Alarms for fire, security, and other safety alerts must be in place and in working order. Routine maintenance records should be kept, detailing safety checks of the equipment. [PF-6, SS-8, SS-12, SS-13, SS-14, SS-15, SS-17, SS-19]
- ▶ Lighting must be sufficient in all indoor facilities, including night houses, so that maintenance can be accomplished and animals can be observed. A means for emergency lighting must be available. Lighting in public areas should be sufficient for the safe maneuvering of the visiting public. [PF-11]
- ▶ A written policy for the handling of toxic/hazardous materials must be available to all staff working with those materials. Material Safety Data Sheets (MSDS) must be located in areas for easy access by employees, and employees must be trained in the proper handling of toxic/hazardous materials. [PF-14, SS-8, SS-16, SS-18]
- ▶ All walkways must be kept in good repair. [PF-17]
- ▶ All animal enclosures (exhibits, holding areas, hospital, and quarantine/isolation) must be of a size and complexity sufficient to provide for the animal's physical, social, and psychological well-being; and exhibit enclosures must include provisions for the behavioral enrichment of the animals. [PF-23, PF-24, AC-30, AC-31, AC-34]

SAFETY/SECURITY

- ▶ All institutions must have a written plan available to staff for first-aid and other various health emergencies. [SS-1, SS-2, SS-3, SS-4, SS-5, SS-9, SS-10]
- ▶ A written risk management policy must be developed and implemented. [SS-6, SS-7]

Explanation: Risk management is defined as a plan in which areas of potential risk for injury/harm to the visiting public and employees, as well as ways for prevention of such injury/harm, are identified. An employee committee should be appointed to implement the risk management plan, identify areas of potential risk, and review previous incidents. (Some examples of potential risk to employees include wet floors and poor lighting and ventilation in work areas, poorly constructed/planned exhibit service areas, cluttered work space, inadequate training, and animal shift mechanisms not in proper repair.)

- ▶ Institutions maintaining venomous animals must have appropriate antivenin available, and its location must be known by all staff members working in those areas. All areas housing venomous animals must be equipped with an alarm system which is routinely checked. An individual should be responsible for inventory, disposal/replacement, and storage of antivenin.
- ▶ Institutions maintaining potentially dangerous animals (sharks, whales, tigers, bears, etc.) should have appropriate safety procedures to deal with an attack or injury by these animals, and should practice these procedures on a regular basis. If an attack or injury has occurred previously, a written account of the method by which this event was handled should be maintained. [SS-9, SS-10, SS-11]

- ▶ All emergency procedures must be written and provided to staff and, where appropriate, to volunteers. [SS-9, SS-10, SS-11, SS-12, SS-13, SS-14, SS-15, SS-16]

Explanation: Emergency procedures include those for animal recapture, bites/stings by a venomous animal, natural disaster (fire, hurricane, flood, tornado), major power failure involving life-support systems, major communication failure, and emergencies created by humans or stray animals. Emergency drills should be conducted at least annually to determine if all staff are aware of emergency procedures, as well as to identify potential areas which could cause problems in the handling of an emergency.

- ▶ Security personnel must be trained to handle emergencies in accordance with the policies of the institution. [SS-12]
- ▶ The institution must have a communication system that can be quickly accessed in case of an emergency. [SS-17]

Explanation: There should be immediate access to designated persons in case of an emergency via walkie/talkie, pager, mobile telephone, intercom, telephone, alarm, or other electronic devices.

- ▶ Keepers should be trained to recognize abnormal behavior and clinical symptoms of illness and have knowledge of the diets, husbandry (including enrichment items and strategies), and restraint procedures required for the animals under their care. However, keepers should not evaluate illnesses nor prescribe treatment. [SS-20]
- ▶ Those institutions which utilize underwater diving with compressed air (SCUBA or surface-supplied) as a part of regular operations and/or maintenance shall meet minimal operational safety standards for such diving. Such institutions must comply with the applicable laws for their location and size of institution and should follow the standards mandated by the Occupational Safety and Health Administration (OSHA) for commercial diving. Alternatively, such institutions may elect to claim an exemption from the OSHA standards for "scientific diving". If such an exemption is claimed, the institution must operate under the auspices of a diving manual commensurate with the consensual standards of the scientific diving community (modeled after or approved by the American Academy of Underwater Sciences [AAUS]), and under the control of a diving safety board or committee which has full institutional authority to ensure compliance with diving safety standards. [SS-21/22, SS-24]
- ▶ A written protocol should be developed involving local police or other emergency agencies and include response times to emergencies. [SS-25, SS-34, SS-35, SS-36]
- ▶ All exhibit service areas must be safely lighted, free of debris, and provide space to allow for safe servicing. Also, service exit doors must be clearly marked and in good working order. All locks and shift doors must be in good working order. [PF-11, SS-26, SS-29]
- ▶ All public access areas must be equipped with exit signs and doors must be equipped with emergency hardware. [SS-21/22, SS-27, SS-29, SS-30, SS-31]
- ▶ Guardrails/barriers must be constructed in all areas where the visiting public could have contact with other than handleable animals. [SS-32, SS-33]
- ▶ Special attention must be given to free-ranging animals so that no undue threat is posed to either the animal collection, free-ranging animals, or the visiting public. Free-ranging animals maintained where they will be in contact with the visiting public must be carefully monitored, and treated humanely at all times. [SS-32]
- ▶ Security should be provided on a 24-hour, year-round basis. [SS-34, SS-35, SS-36]

Explanation: The Commission recognizes that all institutions may not be able to provide security personnel on a 24-hour basis; however, every attempt should be made to provide security when the institution is closed to the visiting public. Security responsibilities should include regular rounds of the entire institution to detect problems. If it is impractical to provide security personnel, the Commission may approve the use of electronic systems or other security measures.

- ▶ Stored firearms must be in a locked cabinet and accessible only to authorized personnel trained in their use. [SS-38]

Explanation: Personnel authorized to utilize firearms should have professional training and regular practice.

- ▶ Perimeter fencing must be separate from all exhibit fencing or other enclosures, and be of good quality and construction. All facilities should be enclosed by a barrier or perimeter fence which is at least 8' in height. [SS-40, SS-41]

Explanation: There are rare instances where the terrain surrounding the facility provides a viable barrier. However, most facilities must be enclosed by a perimeter fence. Facilities located in rural areas and which are PPEQ-approved must meet special USDA standards for fencing. Institutions which are entirely enclosed within a building may be exempt from this requirement.

ANIMAL COLLECTION

General Considerations:

The institution must comply with all relevant wildlife laws.

Institutions that have contact areas should develop a written policy regarding protection for the animals in the area and safety for the visiting public. (See pages 62-64 of these standards for further information.)

- ▶ All institutions must have an Institutional Collection Plan (ICP). The ICP should be re-evaluated and updated at minimum every five years. [AC-1, AC-2, AC-3]

Explanation: The ICP should include a statement of justification for all species and individuals in the institution's planned collection. The ICP should consider such criteria as: •status in the wild, •status in zoos and aquariums, •existence and priorities of cooperative management programs, •ability to maintain the species in both a physically and psychologically healthy environment, •exhibit value, •exhibit suitability (may include climatic considerations), •need for husbandry and other research, •recommendations stated in AZA TAGs' Regional Collection Plans, and •any other issues specific to the institution's mission and vision.

- ▶ The animal collection should be representative of the mission statement of the institution. [AC-5]
- ▶ An animal inventory must be compiled at least once a year and include data regarding activity in the animal collection. [AC-6, AC-7]
- ▶ All species owned by the institution must be listed on the inventory, including those animals on loan to and from the institution. In both cases, notations should be made on the inventory. [AC-4]

- ▶ Animals should be displayed, whenever possible, in exhibits replicating their wild habitat and in numbers sufficient to meet their social and behavioral needs. Display of single specimens should be avoided unless biologically correct for the species involved. [AC-4, AC-5, AC-28, AC-31]
- ▶ Animals must be identifiable, whenever practical, and have corresponding ID numbers. For animals maintained in colonies or other animals not considered readily identifiable, the institution must provide a statement explaining how record keeping is maintained.
- ▶ Animal records, including health records, must be duplicated and stored in a separate location. [AC-9, AC-10, AC-11, AC-16]

Explanation: If an institution is not a full participant in ISIS, a complete and up-to-date set of animal records should be duplicated and stored in a separate location. Regardless of ISIS participation, all institutions should maintain at least one complete set of animal records in a fireproof safe.

- ▶ At least one set of the institution's historical animal records must be stored and protected. Those records should include permits, titles, declaration forms, and other pertinent information. [AC-10, AC-11, AC-16]
- ▶ A staff member should be designated as being responsible for the institution's animal record-keeping system. That person should be charged with establishing and maintaining the institution's animal records, as well as with keeping all animal care staff members apprised of relevant laws and regulations regarding the institution's animal collection. [AC-12]
- ▶ Animal records must be kept current, and data should be logged daily.

Explanation: Keepers and aquarists should keep daily reports. Records should be kept for at least one year. Prior to disposal of any animal record files, all pertinent information should be transferred to the animal's permanent historical file.

- ▶ Each institution must have a written acquisition/disposition policy that, at minimum, incorporates all requirements contained in AZA's acquisition/disposition policy. (See pages 69-73 of these standards for further information).

Explanation: Animal acquisition/disposition policies (including breeding loans) should be continually reviewed to keep them current with all local, state/provincial, regional, national, and international wildlife laws. Such policies must also incorporate all rules/regulations/resolutions adopted by AZA regarding hunting ranches, animal auctions, research, pets, participation in SSPs, TAGs, and CAPs, and other issues involving the acquisition and disposition of wildlife.

Records must be maintained for all transactions involving acquisition and disposition of animals to and from the collection and must include the terms of the transaction.

Copies of all relevant permits, importation papers, declaration forms, titles, and other appropriate documents establishing a paper trail of legal acquisition must be maintained whenever possible. When such information does not exist (the institution's maintenance of confiscated wildlife), an explanation must be provided regarding such animals. [AC-14, AC-15, AC-16]

- ▶ If animal demonstrations are a part of the institution's programs, an educational/conservation message must be an integral component. A philosophy on the use of live animals in programs should be on file. Animals in education programs must be maintained and cared for by trained staff, and housing conditions must meet standards set for the remainder of the animal collection. [AC-25]
- ▶ ISIS participation is strongly recommended for all species, and especially for all endangered, CITES I, SSP, and studbook species in the animal collection. [AC-6]

For collections that are not accommodated by ISIS record-keeping (e.g., fish, insects, etc.), a record keeping system is required that provides sufficient detail to enhance husbandry, breeding, conservation, and medical

health advancements to move forward the critical knowledge of the species through permanent and retrievable documentation.

- ▶ Institutions which include elephants in their collection must follow the AZA Standards For Elephant Management And Care. (See pages 53-61 of these standards for further information.) [AC-17 – AC-22, C-7]
- ▶ A regular program of monitoring water quality for collections of fish, pinnipeds, cetaceans, and other aquatic animals shall be required. A written record shall be maintained to document long-term water quality results and chemical additions. [AC-26]

Explanation: Monitoring of selected water quality parameters will provide confirmation of the correct operation of filtration and disinfection of the water supply available for the collection. Additionally, high quality water enhances animal health programs instituted for aquatic collections.

- ▶ The animal collection must be protected from weather detrimental to their health. [AC-27]

Explanation: Animals not normally exposed to cold weather should be provided heated enclosures. Likewise, protection from excessive heat should be provided to those animals normally occurring in cold climates.

- ▶ A formal written enrichment program is recommended which promotes species-appropriate behavioral opportunities for appropriate taxa. [AC-36]

Explanation: It is recommended that an enrichment program be based on current information in behavioral biology, and should include the following elements: goal-setting, planning and approval process, implementation, documentation/record-keeping, evaluation, and subsequent program refinement.

- ▶ It is recommended that a specific staff member or committee be assigned for program oversight, implementation, training, and interdepartmental coordination of enrichment efforts (based on parallels with research and record-keeping guidelines). [AC-37]
- ▶ The exhibit graphics and other interpretive devices should be based upon current scientific knowledge and reflect current interpretive methods. [AC-33, AC-34, AC-35]

Explanation: The interpretive program must include information regarding the animal collection's natural history, conservation, ecology, relation to humans, correct identification, and current status (i.e., endangered or threatened). Exhibits in which endangered animals are displayed must include the designation as an endangered species. Those exhibits displaying AZA Species Survival Plan (SSP) animals should include a statement that the animals are part of the AZA's SSP program, as well as identification with the SSP logo and text in the graphics. Inclusion of interpretive information on botanical collections is strongly encouraged.

- ▶ All institutions dealing with collectors of aquatic specimens have the responsibility to determine that the collection procedures are not to be the cause of environmental abuse (e.g., cyanide poisoning and reef blasting). [AC-38]

Explanation: Member institutions are encouraged to pursue and develop environmentally friendly and responsible working relationships with all their collection suppliers.

- ▶ All institutions dealing with commercial collectors have the responsibility to determine that the collectors are properly permitted to conduct legal collections of animals (including aquatic animals) from the wild. [AC-39]

Explanation: AZA believes that each institution should be proactive in ensuring that any commercial collectors utilized are properly permitted to conduct legal collections of animals from the wild.

VETERINARY CARE**General Considerations:**

An institution should adopt the guidelines for medical programs developed by the American Association of Zoo Veterinarians [<http://www.aazv.org/guidelines.htm>].

- ▶ A full-time staff veterinarian is recommended. However, the Commission realizes that in some cases such is not practical. In those cases, a consulting/part-time veterinarian must be under contract to make at least twice monthly inspections of the animal collection and respond as soon as possible to any emergencies. The Commission also recognizes that certain collections, because of their size and/or nature, may require different considerations in veterinary care. [VC-1]
- ▶ So that indications of disease, injury, or stress may be dealt with promptly, veterinary coverage must be available to the animal collection 24 hours a day, 7 days a week. [VC-1, VC-2]
- ▶ Written, formal procedures must be available to the animal care staff for the use of animal drugs for veterinary purposes. [VC-3, VC-5, VC-6, VC-16]

Explanation: Such procedures should include at least the following: those persons authorized to administer animal drugs, situations in which they are to be utilized, location of animal drugs and those persons with access to them, and emergency procedures in the event of accidental human exposure. All controlled substances must be stored in a class 5 safe. (A class 5 safe is described as one which is fireproof, stationary, preferably secured in concrete, and burglar-proof.) Outdated drugs must be marked as such and stored separately from all other drugs.

- ▶ Capture equipment must be in good working order and available to authorized, trained personnel at all times. [VC-4, VC-5]
- ▶ The veterinary care program must emphasize disease prevention. [VC-7]

Explanation: Vaccination and preventative medicine programs (including TB testing where appropriate) must be in force for the entire collection and under the direction of qualified support staff.

- ▶ Deceased animals should be necropsied to determine the cause of death. Disposal after necropsy must be done in accordance with local/federal laws. [VC-11, VC-12, VC-13, VC-14]
- ▶ The use of drugs in aquariums or aquatic exhibits must comply with FDA Guidelines. [VC-16]

Explanation: The AZA has established an agreement with the Food and Drug Administration (FDA) resulting in a statement from the FDA indicating that it has no objection to the use of drugs in public aquariums under the supervision of a licensed veterinarian. The AZA agreed to implement measures designed to address specific concerns raised by the FDA regarding drug use and possible diversion to use with food fishes and the pet industry. The AZA membership appreciates the fact that the FDA understands that our institutions are primarily education and conservation organizations and that we require the use of drugs to keep our animal collections healthy. This agreement has been reviewed by AZA Institution directors, curators, and veterinarians and resulted in the procedures on page 65.

- ▶ Animal diets must be of a quality and quantity suitable for each animal's nutritional and psychological needs. Diet formulations and records of analysis may be examined by the Visiting Committee. Animal food, especially seafood products, should be purchased from reliable sources that are sustainable and/or well managed. [VC-17, VC-18, VC-19]

Explanation: The Commission believes it is important to regularly test animal diets for nutritional analysis and suitability for each species. Records of such testing should be maintained.

CONSERVATION**General Considerations:**

Interpretive programs and publications should include information on the conservation of wildlife and their habitats to foster concern for disappearing biodiversity and to elevate the environmental knowledge of individuals in the field, in the zoo, and the visiting public.

- ▶ Each Institution must participate in every SSP that pertains to an animal contained in its collection. Institutions may indicate at what level they desire to participate in each SSP. [C-1]
- ▶ Institutions must cooperate in providing pertinent information on its animal collection in a timely fashion to sources such as studbook keepers, SSP species coordinators, TAGs, and CAPs. [C-1]
- ▶ All institutions should be active participants in AZA's and other wildlife conservation programs at appropriate levels based upon budget and/or staff size.

Explanation: Such programs include the Taxon Advisory Groups (TAGs), Conservation Action Partnerships (CAPs), Population Management Plans (PMPs), Scientific Advisory Groups (SAGs), regional/international studbooks, the World Association of Zoos and Aquariums (WAZA), the Species Survival Commission (SSC), and the Conservation Breeding Specialist Group (CBSG), local universities, Audubon Society, etc.

Participation in field conservation programs is strongly encouraged. "Conservation Parking Meters" and other innovative funding strategies for these programs are appropriate for smaller institutions.

Emphasis should be placed on programs that focus on ecosystem conservation.

Explanation: By focusing on conserving entire ecosystems, rather than single species, a large conservation impact can be made through saving all the species that live in the targeted areas. A few examples of such involvement are 1) conducting educational programs in the targeted areas, 2) contributing to the establishment or continued support of reserves, 3) conducting conservation research in the field, 4) supporting eco-tourism so that indigenous individuals derive a value from preserving their natural environment, 5) conducting or supporting conservation training in the targeted areas, and 6) technology transfer.

It is commendable when institutions serve as a training ground for future, professional conservationists. This is demonstrated when participants in conservation programs continue in a conservation-oriented career path. [C-1, C-2, C-3, C-4]

- ▶ Institutions should demonstrate responsible energy and natural resource conservation through such activities as recycling, water conservation initiatives (i.e., repair leaky pools, filter pools rather than overflow systems, water saving plumbing fixtures), and use of solar energy. [C-2]
- ▶ Conservation must be an element in the mission statement of the institution. [C-5]

Explanation: The Commission strongly encourages members' participation in conservation programs available through the Association. The institution's participation in conservation programs will be considered by the Commission in determining the institution's level of commitment to wildlife conservation.

EDUCATION**General Considerations:**

Institutions are encouraged to share educational programming, materials, and evaluation techniques with other AZA institutions.

Education must be an element in the mission statement of the institution.

- ▶ All institutions must have a written education plan that matches current industry standards, and that includes goals and objectives. [E-3, E-4, E-8, E-9]

Explanation: Plans should include a policy for using live animals in programs, guidelines for docents/volunteers, etc. Environmental education should be a primary element within the education plan. Education can be accomplished by programs offered to a wide-variety of audiences and staff through publications, exhibit interpretation, graphics, on-site presentations, tours, slide programs, summer camp, speaker's bureau, outreach programs, and teacher training. Programming should include local/global conservation issues and topics, the role of zoos and aquariums in conservation, and information on AZA and other conservation-oriented organizations. The education plan should include ways that the institution can act as a resource in its community for wildlife conservation education and related issues, as well as to present options for individual action that encourages stewardship in conserving the environment.

- ▶ The education program must be under the direction of a paid staff person who should be trained or have experience in educational programming. In those cases where employees have not yet been retained, someone should be assigned the responsibility to implement and manage the program. Education personnel should be involved in exhibits, graphics, publications, and all structured programs for the visiting public. [E-5]

- ▶ Cooperative programs with institutions of higher learning should be developed. [E-6]

Explanation: Institutions should encourage active, ongoing collaborative partnerships with community groups, other informal education institutions (museums, science centers, nature centers, etc.), school districts, institutes of higher learning, other conservation organizations, local and national governmental agencies, and other organizations and individuals that can contribute to the expansion of the institution's educational dimension.

- ▶ Education programs should be evaluated on a regular basis for effectiveness, content, and updating with current scientific information. Results from evaluations should be used to improve the existing programs and to create new programs. [E-7]
- ▶ An evaluation process should exist for all programs. Those programs utilizing volunteers/docents should also include provisions for recruitment, interviewing, and training. This process should be under the supervision of the staff member charged with overseeing the educational programs. [E-14, E-15]
- ▶ A reference library appropriate to the size and complexity of the institution should be available to all institution staff members and volunteers. [E-17]

RESEARCH

- ▶ Institutions participating in research activities must have a written policy which includes types of acceptable research, methods, staff involvement, evaluations, animals to be involved, and guidelines for publication of findings and be under the direction of a person qualified to make informed decisions regarding research. [R-1, R-2]
- ▶ If research other than behavioral observation is conducted in United States institutions, an Animal Care and Use Committee (or similar committee) responsible for reviewing research projects is required for compliance with the Animal Welfare Act. [R-5, R-6, VC-10]

OTHER PROGRAMS/ACTIVITIES

- ▶ An institution should have a strategic and/or master plan to guide the institution in its development. [OP-2, OP-3]

RECOMMENDED QUARANTINE PROCEDURES

QUARANTINE FACILITY:

A separate quarantine facility, with the ability to accommodate mammals, birds, reptiles, amphibians, and fish should exist. If a specific quarantine facility is not present, then newly acquired animals should be isolated from the established collection in such a manner as to prohibit physical contact, to prevent disease transmission, and to avoid aerosol and drainage contamination. Such separation should be obligatory for primates, small mammals, birds, and reptiles, and attempted wherever possible with larger mammals such as large ungulates and carnivores, marine mammals, and cetaceans. If the receiving institution lacks appropriate facilities for isolation of large primates, pre-shipment quarantine at an AZA or AALAS accredited institution may be applied to the receiving institutions protocol. In such a case, shipment must take place in isolation from other primates. More stringent local, state, or federal regulations take precedence over these recommendations.

QUARANTINE LENGTH:

Quarantine for all species should be under the supervision of a veterinarian and consist of a minimum of 30 days (unless otherwise directed by the staff veterinarian). Mammals: If during the 30-day quarantine period, additional mammals of the same order are introduced into a designated quarantine area, the 30-day period must begin over again. However, the addition of mammals of a different order to those already in quarantine will not have an adverse impact on the originally quarantined mammals. Birds, Reptiles, Amphibians, or Fish: The 30-day quarantine period must be closed for each of the above Classes. Therefore, the addition of any new birds into a bird quarantine area requires that the 30-day quarantine period begin again on the date of the addition of the new birds. The same applies for reptiles, amphibians, or fish.

QUARANTINE PERSONNEL:

A keeper should be designated to care only for quarantined animals or a keeper should attend quarantined animals only after fulfilling responsibilities for resident species. Equipment used to feed and clean animals in quarantine should be used only with these animals. If this is not possible, then equipment must be cleaned with an appropriate disinfectant (as designated by the veterinarian supervising quarantine) before use with post-quarantine animals.

Institutions must take precautions to minimize the risk of exposure of animal care personnel to zoonotic diseases that may be present in newly acquired animals. These precautions should include the use of disinfectant foot baths, wearing of appropriate protective clothing and masks in some cases, and minimizing physical exposure in some species; e.g., primates, by the use of chemical rather than physical restraint. A tuberculin testing/surveillance program must be established for zoo/aquarium employees in order to ensure the health of both the employees and the animal collection.

QUARANTINE PROTOCOL:

During this period, certain prophylactic measures should be instituted. Individual fecal samples or representative samples from large numbers of individuals housed in a limited area (e.g., birds of the same species in an aviary or frogs in a terrarium) should be collected at least twice and examined for gastrointestinal parasites. Treatment should be prescribed by the attending veterinarian. Ideally, release from quarantine should be dependent on obtaining two negative fecal results spaced a minimum of two weeks apart either initially or after parasiticide treatment. In addition, all animals should be evaluated for ectoparasites and treated accordingly.

Vaccinations should be updated as appropriate for each species. If the animal arrives without a vaccination history, it should be treated as an immunologically naive animal and given an appropriate series of vaccinations. Whenever possible, blood should be collected and sera banked. Either a -70°C freezer or a -20°C freezer that is not

frost-free should be available to save sera. Such sera could provide an important resource for retrospective disease evaluation.

The quarantine period also represents an opportunity to, where possible, permanently identify all unmarked animals when anesthetized or restrained (e.g., tattoo, ear notch, ear tag, etc.). Also, whenever animals are restrained or immobilized, a complete physical, including a dental examination, should be performed.

Complete medical records should be maintained and available for all animals during the quarantine period. Animals that die during quarantine should have a necropsy performed under the supervision of a veterinarian and representative tissues submitted for histopathologic examination.

QUARANTINE PROCEDURES:

The following are recommendations and suggestions for appropriate quarantine procedures for several animal groups:

PRIMATES

- REQUIRED:
1. direct and floatation fecals as described above
 2. a minimum of 2 negative tuberculin tests using a tuberculin containing at least 1,500 units/.1 ml (e.g., Mammalian Human Isolate, Coopers Animal Health) or other appropriate regimen as necessary for the species in question (e.g., orangutans, New World primates, etc.)
 3. CBC/sera chemistry panel
 4. culture of feces for salmonella/shigella/Campylobacter
 5. for appropriate species; e.g., Old World monkeys, serology for *Herpesvirus simiae* (Herpes B)

STRONGLY RECOMMENDED:

1. chest radiographs
2. appropriate viral panels (SIV, retrovirus type D)
3. urinalysis

HOOFSTOCK

- REQUIRED:
1. direct and floatation fecals
 2. TB test whenever possible

STRONGLY RECOMMENDED:

1. CBC/sera profile
2. appropriate serology; e.g., leptospirosis brucellosis, MCF, IBR, BVD, etc. Paired titers whenever possible
3. urinalysis
4. Johnes diagnostics if history of disease in herd of origin
5. Coggins test for equids
6. vaccinate as appropriate (See ZOO AND WILD ANIMAL MEDICINE, ME Fowler)

SMALL MAMMALS/CARNIVORES

- REQUIRED:
1. direct and floatation fecals
 2. vaccinate as appropriate (See ZOO AND WILD ANIMAL MEDICINE, ME Fowler and upcoming CURRENT VETERINARY THERAPY XI, WB Saunders Co.)

STRONGLY RECOMMENDED:

1. CBC/sera profile
2. urinalysis
3. appropriate serology (FIP, FeLV, FIV)
4. heartworm testing in appropriate species

BIRDS

- REQUIRED:**
1. direct and floatation fecals
 2. evaluate for ectoparasites
 3. appropriate serological tests for psittacosis, and if positive, confirmed by culture

STRONGLY RECOMMENDED:

1. CBC/sera profile
2. fecal culture for *Salmonella* sp.
3. fecal gram stain

REPTILES AND AMPHIBIANS

- REQUIRED:**
1. direct and floatation fecals for parasites followed by appropriate treatment
 2. evaluate for ectoparasites

STRONGLY RECOMMENDED:

1. veterinary examination
2. CBC/blood chemistries
3. Paramyxo-viral titers for all viperids, incoming after being in quarantine for 30 days
4. full post-mortem examination and histopathology on all specimens dying while in quarantine

FISH**GENERAL COMMENTS:**

Quarantine standards for other zoo and aquarium animals cannot always be applied to fish, and adaptations must be made to the proposed procedures as they apply to fish populations. Proper and appropriate fish quarantine is a vital component of any successful health management program for fish. Quarantine procedures must be tailored to individual species and require greater variation than quarantine for other zoo and aquarium animals. It is in the interest of accredited institutions to carry out quarantine procedures that are both effective and practical, leading to improved animal health.

Fish are usually acquired as populations, not as individual specimens, and individual identity may be impractical to establish. Few aquariums have the facilities and/or space to properly maintain large fish specimens in separate life-support systems, making individual quarantine of these specimens difficult. Aquariums may operate as open or semi-open systems, and specimens acquired from the surrounding waters of these institutions may not benefit from rigid quarantine procedures due to constant introduction of potential disease organisms. Veterinarians may be part of the team supervising the quarantine, but the institution should appoint the staff it feels has the best expertise to supervise and operate the quarantine program. It is appropriate to note that state and federal hatcheries do not often employ veterinarians, yet have well-established and internationally recognized fish health programs of which quarantine is an important factor.

SPECIFIC RECOMMENDATIONS

QUARANTINE FACILITY:

Where appropriate, separate life-support systems (LSS) with the ability to quarantine fishes should exist. The LSS should be operated in such a way as to preclude disease transfer from one system to another and/or introduction into natural waters. Quarantine tanks should have viewing that is adequate to observe the fish for behavior and signs of pathology; the LSS should be adequate to maintain the health of the quarantine population. If an aquarium does not have a separate LSS, it should have the ability to divert flow through the quarantine systems, bypass the common filter, and discharge the water. Disinfection of the discharge water prior to release is advisable. In addition, discharge of this water must comply with federal, state, and local environmental regulations.

QUARANTINE LENGTH:

A quarantine period of 30 days is an adequate standard; however, it must be recognized that certain species or disease problems may require more or less time.

QUARANTINE PERSONNEL:

The institution will appoint the staff it feels has the most expertise to supervise and operate the quarantine program. All equipment (boots, nets, cleaning equipment, etc.) should be confined to the quarantine area. Access to and from the area should be restricted so as to minimize cross-contamination. Precautions must be taken to minimize the risk of zoonotic disease to personnel.

QUARANTINE PROTOCOL:

Each institution must have a written quarantine protocol. During quarantine, appropriate prophylactic measures should be instituted. Complete medical records should be maintained for the specimens during the quarantine period. Fish that die during quarantine, or a representative sample thereof, should be necropsied. Care must be taken that all equipment used with quarantined fish is separate from other systems. (If this is not possible, adequate disinfection procedures must be employed before equipment is used for post-quarantine fish.)

REQUIRED QUARANTINE PROCEDURES:

Because of the great diversity of fish, required quarantine procedures are difficult to establish. The institution should follow the guidelines stated in the above sections to fashion a quarantine program best suited to their needs.

MARINE MAMMALS

All AZA member zoological parks and aquariums should have a quarantine program for new marine mammal arrivals at the institution. A facility should be available which can provide for the isolation of newly acquired marine mammals in such a manner as to prohibit cross-contamination resulting from physical contact, disease transmission, aerosol spread, waste drainage, or the reuse of untreated water. Ocean pens must be located in a way that prevents the spread of any disease from animal to animal through natural water movement and at a distance from other penned animals deemed adequate by the supervising veterinarian. If a receiving institution does not have appropriate isolation facilities, the staff should arrange for quarantine at an acceptable alternate site or only receive animals which do not require quarantine. More stringent local, state, or federal regulations relating to marine mammal quarantine take precedence over these recommendations.

Isolation practices should be instituted based on the prior medical history of the newly arrived animal. Those situations where isolation is recommended would have one or more of the following characteristics:

1. Recently collected (less than 30 days prior to arrival).
2. Recently exposed to a new arrival for which an adequate medical history is not available (less than 30 days prior to arrival).
3. Lack of a documented medical history.
4. Apparent medical problems at the time of arrival.
5. At the direction of the supervising veterinarian.

Quarantine for all species should be under the supervision of a veterinarian and consist of a minimum of 30 days (unless otherwise directed by the staff veterinarian). If during the 30-day quarantine additional marine mammals are introduced into the isolation facility, the 30-day period must begin again for all animals already in quarantine and exposed to the new arrivals.

Attendants should be designated to care only for quarantine animals or to attend quarantined animals only after fulfilling their responsibilities for resident species. Attendants provided with quarantine clothing and washing facilities designed to prevent disease transmission may be allowed to attend to non-quarantine animals after working with quarantined specimens if approved by the supervising veterinarian. Equipment used to feed and clean animals in quarantine should be used only with those animals or should be thoroughly cleaned and disinfected, as designated by the supervising veterinarian, before use with post-quarantine animals.

Institutions must take precautions to minimize the risk of exposure of animal personnel to zoonotic diseases that may be present in newly acquired animals if the attending veterinarian deems that such risk exists. These precautions should include using disinfectant foot baths, wearing appropriate protective clothing, and minimizing physical contact.

During the quarantine period, certain prophylactic measures should be instituted with some species. Individual fecal samples should be collected, if required, at least twice and examined for gastrointestinal parasites. When indicated, treatment should be prescribed by the attending veterinarian. Successful parasiticide therapy may or may not be necessary prior to removal of the animal from quarantine. This determination should be made by the attending veterinarian based on the potential for contagion. Where indicated, the animals should also be evaluated and treated for ectoparasites.

In those species for which vaccines are available and recommended, vaccinations should be given as appropriate for each species. If the animal arrives without a vaccination history, it should be treated as an immunologically naive animal and given an appropriate series of vaccinations. Whenever possible, blood should be collected and sera banked. Either a -70°C freezer or a -20°C freezer that is not frost free should be available to store sera. Such sera can provide an important resource for retrospective disease evaluation.

Where desirable, the quarantine period may present opportunities to permanently identify unmarked animals. A complete physical examination should be performed during entrance into and prior to exit from quarantine.

Complete medical records should be kept and be available on all animals during the quarantine period. Animals that die during quarantine should have a necropsy performed on them under the supervision of a veterinarian, and representative tissues should be submitted for histopathologic examination.

Following are the recommendations and suggestions for appropriate medical procedures to be performed during or immediately prior to the quarantine period, by animal group:

CETACEANS

- REQUIRED:
1. CBC/serum chemistry panel
 2. Physical examination

STRONGLY RECOMMENDED:

1. Direct and floatation fecal exam

2. Urinalysis
3. Blowhole and stool culture and cytology
4. Blood zinc levels

PINNIPEDS

- REQUIRED:
1. CBC/serum chemistry panel
 2. Physical examination

STRONGLY RECOMMENDED:

1. Direct and floatation fecal exam
2. Urinalysis
3. Morbillivirus titer
4. Leptospira titer
5. Heartworm test (if appropriate)
6. Stool culture and cytology
7. Blood zinc levels

SIRENIANS

- REQUIRED:
1. CBC/serum chemistry panel
 2. Physical examination

STRONGLY RECOMMENDED:

1. Direct and floatation fecal exam
2. Stool culture and cytology

CARNIVORES (Polar bear, sea otter)

- REQUIRED:
1. Direct and floatation fecal exam
 2. CBC/serum chemistry panel
 3. Physical examination
 4. Vaccination for canine distemper, feline panleukopenia, canine parvovirus, and rabies should be current as deemed necessary by the attending veterinarian.

STRONGLY RECOMMENDED:

1. Urinalysis
2. Blood zinc levels

NOTE: Highlighted sections are recommendations (not requirements), or are standards for which variances may be obtained. (See page 22 for information on requesting a variance.)

AZA STANDARDS FOR ELEPHANT MANAGEMENT AND CARE

Adopted 21 March 2001, Updated 5 May 2003

The following standards apply to the husbandry and management of both African (*Loxodonta africana*) and Asian (*Elephas maximus*) elephants in AZA accredited institutions, AZA related facilities, and non-member participants in the AZA Elephant Species Survival Plan (SSP). The intelligence, strength, and social needs of these magnificent animals can pose many challenges for captive managers. Institutions desiring to hold elephants should therefore understand the substantial human, financial, and ethical commitments involved in appropriately maintaining these large and potentially dangerous species (Hutchins and Smith 1999). These standards have been developed to guide institutions that are planning and improving their elephant programs and are considered during the AZA accreditation process and non-member SSP participant evaluation. The AZA Board of Directors has instructed the Accreditation Commission to immediately require written verification from AZA member institutions holding elephants, certifying that they are meeting the required standards (BOD 3/25/03).

The AZA Board of Directors believes that the Association performs a valuable role in the cooperative development of standards for zoo and aquarium animal management and care, which are designed to advance the collective mission of AZA and its members. The development of these standards and the adoption of them through the AZA accreditation process is what sets AZA members apart from roadside animal attractions. The Board understands that there will be differences of opinion as to what constitutes appropriate standards. Standards evolve over time reflecting changes in knowledge, expertise, and public perception.

The AZA Board of Directors has asked the AZA Elephant SSP/TAG to begin formulating a draft vision for the future of elephant management in AZA accredited zoos. Because current standards are expected to change over time, it is recommended that members seeking to plan new elephant exhibits/care programs look to the vision, rather than the current standards, for guidance on where to go in the future.

Compliance with some minimum housing (specifically space, enclosure design, and elephant restraint device (ERD) requirements) must be implemented no later than five years from the issuance of these standards (1 May 2006). Institutions must have written implementation plans for compliance with these standards no later than three years from their issuance (1 May 2004). AZA accredited and related facilities must meet all other provisions described here within one year (1 May 2002) of the issuance of these standards, unless the Accreditation Commission approves a variance. Failure to meet basic AZA standards for elephant management and care will be noted during accreditation inspections. Current non-member participants in the SSP will be given the same time schedule for compliance, but new non-member participants must meet all new standards prior to approval.

1. Abiotic Environmental Variables

1.1. Temperature

- 1.1.1. Elephants must be kept outside on natural substrates as much as possible. Institutions should consider designing exhibits that allow elephants outdoor access twenty-four hours a day -- weather, health, and safety permitting. During daylight hours, elephants kept outdoors can tolerate moderate temperature extremes. Provisions must be made to protect animals from adverse weather, including intense sunlight, chilling rain, sleet, etc. Animals kept outdoors must be monitored frequently at temperatures below 40 degrees F (4.4 degrees C). Facilities may install outdoor heat sources to extend the amount of time the animals are able to remain outside.
- 1.1.2. While outdoors, all elephants must have access to shade during daylight hours in temperatures above 80 degrees F (27 degrees C) and when they are exposed to direct sunlight.
- 1.1.3. Indoor holding areas must be ventilated, and heated to a minimum temperature of at least 55 degrees F (12.8 degrees C) at all times of the year. One room must be capable of maintaining a temperature of at least 70 degrees F (21.1 degrees C) and be free of drafts, for accommodating sick or debilitated animals.

- 1.2. Humidity -- There are no standards for humidity at this time. Information is limited, but this does not seem to be of major concern for elephant management.

1.3. Illumination

- 1.3.1. Natural daylight cycles are adequate for elephants, even in temperate regions. Indoor areas must be well illuminated during daylight hours, followed by a period of darkness. Fluorescent lighting provides a sufficient spectrum of illumination; skylights, in addition to interior lighting, are highly recommended. Ample interior lighting must be available, as it is especially important to maintain staff safety.

1.4. Space

- 1.4.1. Indoor space must provide adequate room for animals to move about and lie down without restriction. A minimum of 400 sq. ft (37.2 sq. m) is required for a single animal, approximately 800 sq. ft (74.3 sq. m) for two animals, and so on (AZA 1997). Because of their size and space requirements, bulls or cows with calves must have a minimum of at least 600 sq. ft (55.7 sq. m) (AZA 1997).
- 1.4.2. Outdoor yards must have at least 1,800 sq. ft (167.2 sq. m) for a single adult individual and an additional 900 sq. ft (83.6 sq. m) must be added for each additional animal (AZA 1997). If this space is the only location for exercise, then it is recommended that the space per elephant should be even greater.
** Note: Institutions can petition for a variance from the current minimum indoor or outdoor space standards. The applicant must explain why their facilities are adequate, even though they do not meet the minimum size standard. Accreditation inspectors will take a holistic approach to accreditation inspections, rather than focusing on specific size measurements. Context is particularly important. For example, it may not be a problem that the indoor space requirements are under the standard by a small amount if a zoo is located in a warmer climate and the animals are outside most of the time. If, however, the zoo is located in a cooler climate and the animals are kept inside for many months during the winter, then the indoor space requirements must be met or, preferably, exceeded. Environmental enrichment programs should also be taken into consideration when evaluating space available.
- 1.4.3. Mature animals can reach a vertical height of 20 ft (6.1 m). Consideration of this must be given with regard to ceiling heights and fixtures (e.g., lights, heating units, plumbing, etc.) so that animals do not harm themselves or the facility.
- 1.4.4. All facilities must have the ability to separate and isolate animals to address behavioral concerns or allow veterinary procedures to occur (EMA 1999).
- 1.4.5. Outdoor yard surfaces must consist primarily of natural substrates (e.g., soil, sand, grass) that provide good drainage and have a cleanable, dry area for feeding (EMA 1999).
- 1.4.6. While outdoors, elephants must have access to sand or soil at all times for dust bathing (EMA 1999).
- 1.4.7. Rocks, tree stumps, or large sturdy objects must be provided in the exhibit so that the animals may use them for rubbing and scratching.
- 1.4.8. Elephant containment barriers must be in good condition and able to prevent elephant escapes. A wide variety of building materials can be used as long as they are able to withstand the animals' strength, contain the elephant in a specific space, and prohibit direct contact between elephants and the public.
- 1.4.9. Door and gate design is extremely important to ensure the safety of both elephants and keeper staff. Both doors and gates must be engineered to withstand extreme force. If mechanical opening devices, such as hydraulic or electrically powered drives are used, they must be able to be operated manually or with a backup generator in the case of a power failure.

- 1.4.10. Enclosures must be cleaned of excrement daily. Frequent daily manure removal is recommended and may be necessary for the maintenance of both sanitary and esthetic conditions (EMA 1999).
- 1.4.11. If the AZA Elephant SSP-managed population is to become sustainable, it is necessary to create housing for many more adult males (Wiese 2000, Wiese and Olson 2000). All institutions considering new construction for elephants should include holding space for adult males. Institutions modifying existing facilities should also make provisions for bull housing.
- 1.4.12. There are no standards on the visual, acoustic, and olfactory needs of elephants at this time.
- 1.4.13. There are no specific standards for the transportation of elephants at this time, but see Fowler (1995).

1.5. Water and Moats

- 1.5.1. While outdoors and weather permitting, elephants must have regular access to a water source, such as a pool, waterfall, misters/sprinklers, or wallow that provides enrichment and allows the animals to cool and/or bathe themselves.
- 1.5.2. Standing water in indoor floor areas can cause foot problems and become a breeding ground for bacteria. Floors must therefore be impervious to water, quick to dry, and sloped to a drain. Floor surfaces must be relatively smooth, but not enough so that they become slippery when wet. Conversely, very rough surfaces may cause excessive wear or irritate footpads.
- 1.5.3. Dry moats can pose a substantial threat to elephants and their use must be limited with the ultimate goal that they are eventually phased out. Moats that are deep, narrow-sided, and hard-bottomed can be particularly dangerous. Although there should be no risk of animals falling or being pushed into the moat, written animal extraction protocols must be in place for any moat that is more than 3 ft (1 m) deep, less than 10 ft (3 m) wide, and/or hard-bottomed.

2. **Biotic Variables**

2.1. Food and Water

- 2.1.1. Elephants must have access to clean, fresh drinking water (EMA 1999). When water containers are used, drinking water must be cleaned and refreshed at least twice a day. Containers must also be cleaned daily.
- 2.1.2. Fresh browse and produce should be used as dietary supplements and enrichment for the animals.

2.2. Group Composition

- 2.2.1. The minimum age offspring must remain with their mothers is three years. Some flexibility is necessary in cases of maternal rejection and when infants cannot be reestablished in their social group.
- 2.2.2. Institutions must have the ability to manage social compatibility as well as dominance and aggression among an elephant group (EMA 1999).
- 2.2.3. Institutions must have the ability to manage introductions and separations of a new female to a herd and, if the institution is a breeding facility, females to males for breeding, newborn calf to its mother, and calf and mother to the herd.
- 2.2.4. Institutions must provide an opportunity for each elephant to exercise and interact socially with other elephants (Taylor and Poole 1998, EMA 1999).
- 2.2.5. Adult males (six years and above) may be housed alone, but not in complete isolation (opportunities for tactile, olfactory, visual, and/or auditory interaction with other elephants must be provided) (Rasmussen et al. 1982).
- 2.2.6. A behavioral profile must be maintained for each individual elephant and updated annually.
- 2.2.7. All holding institutions must have a written environmental enrichment plan for their elephants and show evidence of implementation (Shepherdson et al. 1998, EMA, 1999, Shepherdson 1999).
- 2.2.8. Staff must be aware of each animal's social compatibility and the dominance hierarchies of the herd (EMA 1999).

2.3. Group Size

- 2.3.1. Zoos should make every effort to maintain elephants in social groupings. It is inappropriate to keep highly social female elephants singly (see Sukumar 1992, Taylor and Poole 1998, EMA 1999). Institutions should strive to hold no less than three female elephants wherever possible. All new exhibits and major renovations must have the capacity to hold three or more female elephants.
**Note: It is understood that obtaining additional elephants for zoo exhibits can be difficult at this time. Temporary variances will therefore be considered regarding group size requirements. Institutions that do not currently meet the group size standard should demonstrate that they have requested assistance from the SSP in obtaining additional animals.

It is recognized that some socially aberrant adult females currently exist and these elephants can be

managed singly if the institution has made every effort to introduce them to a social group and the SSP agrees that the anti-social behavior is not correctable.

- 2.4. Human-animal Interactions – A minimum of two qualified elephant keepers must be present during any contact with elephants. A qualified keeper is a person the institution acknowledges as a trained, responsible individual, capable of and specifically experienced in the training and care of elephants.
- 2.5. Introductions – There are no specific standards for elephant introductions at this time, but see Lindburg and Robinson (1986) and Krantz (1996).

3. Health and Nutrition

3.1. Diet

- 3.1.1. High quality and nutritionally correct food must be provided in sufficient quantities to maintain animal health and appropriate weight (EMA 1999). Hay and grain should be formulated to provide a complete diet as recommended by the Elephant SSP Nutrition Advisor.
- 3.1.2. There are no specific standards for elephant nutrition at this time, but see Dierenfeld (1995), Oftedahl et al. (1996) and Ullrey et al (1997).

3.2. Medical Management

- 3.2.1. A veterinarian with experience in large mammal medicine must be on call at all times to deal with routine elephant health evaluation and treatment and medical emergencies.
- 3.2.2. Each elephant must be given a thorough annual physical examination (Mikota et al. 1994).
- 3.2.3. All elephants must be visually inspected on a daily basis (EMA 1999). A general assessment must be made and any unusual activities should be recorded in the daily log at each inspection. Specifically, reports should include observations such as condition of urine and feces, eating and drinking patterns, administration of medications (if any), and general condition and behavior.
- 3.2.4. A veterinarian or trained veterinary technician must perform fecal examinations to look for parasites and other problems at least twice a year (Samuel et al. 2001). Results should be recorded.
- 3.2.5. All elephants must be trained to permit a complete body daily exam (include feet, eyes, ears, open mouth and tongue, teeth, and tusks) for any sign of abnormalities. Results should be recorded.
- 3.2.6. All elephants' body weight must be assessed and recorded at least twice a year (EMA 1999) through actual weighing or through the use of standardized body measurement tables, photographs, or similar, previously validated techniques (e.g., Nirmalan and Sreekumar 1990).
- 3.2.7. For management purposes, all elephants must be trained to accept injections, oral medications, insertion of ear or leg vein catheters, treatment of wounds, enemas, and urogenital examinations (Mikota et al. 1994, EMA 1999).
- 3.2.8. All elephants must be trained to accept regular collection of blood, urine, feces, saliva, semen, skin biopsy, and temporal gland secretion (Brown 1998, EMA 1999). Biological specimens should be stored according to the SSP Veterinary Advisor's guidelines on biomaterials collection.
- 3.2.9. All elephants' skin must be thoroughly inspected on a daily basis and cared for as needed through bathing, removal of dead skin, and treatment of dry skin or other skin problems (Mikota et al. 1994, EMA 1999).
- 3.2.10. Each elephant facility must have a written protocol for routine foot care and show evidence of its implementation (Mikota et al. 1994, Csuti et al. 2001). This protocol must include daily cleaning and inspection of each elephant's feet.
- 3.2.11. Baseline foot radiographs or thermographs of all adult elephants must be taken and kept on file. In some facilities, it may be appropriate to annually monitor selected elephants (i.e., those that have a history of chronic foot problems) (Csuti et al. 2001).
- 3.2.12. A written daily exercise program for each individual animal must be designed and followed (Taylor and Poole 1998). The program should be developed in consultation with the elephant manager, elephant handlers, and the staff veterinarian(s).
- 3.2.13. When forming new herds, Asian and African elephants should not be placed together in the same enclosure. Herpes viruses endemic to one species can be fatal in the other (Richman et al. 1996, 1999). In addition, there is concern that behavioral differences between the two species may lead to problems with dominance and aggression (Hutchins and Smith 1999).
- 3.2.14. Institutions must adhere to USDA APHIS requirements for testing and treatment of tuberculosis (USDA APHIS 2000, Mikota et al. 2000).

4. Reproduction

- 4.1. Each male and female elephant of reproductive age (8 to 35 years) must have an initial reproductive assessment and follow-up assessments on a regular basis by transrectal ultrasound to verify reproductive status and assess overall reproductive health (Hermes et al. 2000, Hildebrandt et al. 2000 a,b). Exceptions include elephants with known reproductive problems, actively breeding animals, or those with documented medical/behavioral conditions that preclude them from breeding.
- 4.2 Each male and female elephant of reproductive age (8 to 35 years) must have hormone (progesterone or testosterone) values assessed through weekly (or bi-weekly) collection of blood samples (Brown 1998, 2000). Exceptions are elephants with known reproductive problems or those with documented medical/behavioral conditions that preclude them from breeding.

5. Behavior management

5.1. Training

- 5.1.1. Electrical devices designed for use on livestock, such as commercially manufactured electric prods and shocking collars/belts, are prohibited as routine training tools or for handling animals during exhibition. Electric prods are permissible only as an emergency safety device; however, their use is restricted to situations in which keepers feel the imminent need to defend themselves against elephant attacks, or to protect an elephant from possible injury (see Schanberger et al. 2001).
- 5.1.2. Elephant training terminology and descriptions of specific behaviors are outlined in the *AZA Schools for Zoo and Aquarium Personnel Principles of Elephant Management (PEM) Course Notebook* (AZA Board of Regent's 2001). Trained behaviors should allow the elephant staff access to the animal in order to accomplish all necessary animal care and management procedures and permit inter-institutional consistency. The PEM-recommended list of commands and their corresponding behaviors are ones that every elephant and elephant keeper must know so that basic husbandry and veterinary practices can be accomplished. Behaviors should be reinforced so that all elephants attain close to 100% compliance upon request of the elephant staff (Sevenich et al. 1998).

Appropriate elephant training may employ several training aids or "tools" (see PEM Course notebook for a list and description of some elephant training tools and procedures). The goal of a good trainer is to be able to reduce the amount of time any particular training aid is used (Roocroft and Zoll 1994).

The AZA considers the following training tools/techniques to be inappropriate for use at member institutions:

- a. Insertion of any implement into any bodily orifice, unless directed by a veterinarian specifically in connection with training for a medical or reproductive procedure.
- b. Striking an elephant with anything more substantial than an ankus (a traditional training tool used by elephant trainers)
- c. Striking an elephant with any sharp object, including the hook of an ankus (Fowler 1995).
- d. Striking an elephant on or around any sensitive area, such as the eyes, mouth, ears, or genital region.
- e. No tools used in training should be applied repeatedly and with such force that they cause any physical harm to an animal (i.e., breaking of the skin, bleeding, bruising, etc.).
- f. Withholding or reducing an animal's daily-recommended amount of food and or water.
- g. Withholding veterinary care for any reason.

If properly executed training procedures are ineffective in eliminating aggressive or inappropriate behavior in a given animal, institutions should consider other alternatives, including transfer to a facility with more experienced staff or a different management system. Protracted and repeated use of corporal discipline in training is of serious ethical concern and AZA considers abusive training practices to be unacceptable. Further, elephants that are untrained, unexercised, or unable to complete minimum behavioral requirements may be considered neglected and thereby abused.

- 5.2. Management Systems – Different elephant management systems have both advantages and disadvantages

(Desmond and Laulie 1991, Doyle 1993, Preist et al. 1998, Schmid 1998). AZA standards for elephant management recognize that a diversity of approaches exist, but encourage members to continue to experiment with the goal of maximizing elephant health and reproduction and minimizing risk of injury to keeper staff (Lenhardt 1991, 2001, Chapple and Ridgway 2001). System definitions have been defined in the PEM Course and are as follows:

Free Contact – The direct handling of an elephant when the keeper and elephant share the same unrestricted space. Neither the use of chains nor the posture of the elephant alters this definition.

Protected Contact – Handling of an elephant when the keeper and the elephant do not share the same unrestricted space. Typically in this system the keeper has contact with the elephant through a protective barrier of some type while the elephant is not spatially confined and is free to leave the work area at will. This includes confined contact, where the handling of an elephant through a protective barrier where the elephant is spatially confined, as in an Elephant Restraint Device (ERD).

- 5.3. Management Protocols – Each AZA member institution and related facility that holds elephants must have a written elephant management policy. This policy must be consistent with AZA standards for elephant management and care, and must, at minimum, include a description of the institution's:
- Elephant management program's missions and goals (EMA 1999).
 - Elephant management policies, including guidelines for handling, training, and translocation (EMA 1999).
 - Plan to separate animals from each other, safely manage elephants that are aggressive toward other elephants, safely move elephants from one location to another, and safely manage elephants that are aggressive toward humans (EMA 1999).
 - Staff management policies, including guidelines for keeper safety (EMA 1999).
 - Individual elephant profiles and incident reports for all cases in which elephants show aggression toward keepers or the public, regardless if any injury actually resulted.
 - Emergency response protocol. Institutions should be able to demonstrate readiness to respond to an emergency situation, such as an elephant escape or keeper injury (EMA 1999).
- 5.4. Safety
- 5.4.1. All elephant-holding institutions must undertake at least a semi-annual elephant facility and program safety assessment, identify safety needs, and fully implement any corrective measures. Each facility shall establish a safety assessment team. The team may include elephant staff, management staff, animal health care staff, and experts in the area of risk management and safety. Each facility should establish the make-up of the team based on its own needs and resources. A written record must be kept for each inspection and that record be reviewed and its recommendations acted upon.
 - 5.4.2. In the interest of public safety, AZA strongly discourages visitor-elephant interactions, outside of the primary enclosure. AZA strongly discourages the practice of walking elephants in public areas during public hours (BOD 3/25/03).
 - 5.4.3. In the interest of safety, AZA strongly encourages members to discontinue public elephant rides (BOD 3/21/00).
- 5.5. Restraint
- 5.5.1. Chaining is acceptable as a method of temporary restraint (Fowler 1995). However, elephants must not be subjected to prolonged chaining (for the majority of a 24-hour period) unless necessary for veterinary treatment or transport. Institutions that regularly use chains for some portion of a day must alternate the chained foot on a daily basis. All new construction and major renovations must be constructed in a manner that minimizes or eliminates the need for chaining (Schmid 1995, Gruber et al. 2000).
****Note: If AZA policies on chaining require new construction, rather than procedural changes, then institutions will have five years to comply with this requirement. Plans must be in place within three years and institutions must apply for a variance from the AZA Accreditation Commission.**
 - 5.5.2. All elephant holding facilities should install an Elephant Restraint Device (ERD) (Schmidt et al. 1991). However, all bull-holding facilities, as well as those that manage elephants in protected contact, must have an ERD. Use of the ERD should not be weather dependent.
 - 5.5.3. Each elephant must be trained to enter and stay in the ERD, if one is available, for husbandry, veterinary, reproductive assessment, and other procedures to occur in a safe and efficient manner (Schmidt 1991).

5.5.4. If a facility does not have an ERD, staff must demonstrate a method of restraint that allows necessary husbandry, veterinary, and reproductive procedures to occur in a safe and efficient manner (Fowler 1995).

6. Staff Organization and Training

- 6.1. Each institution must have one person, designated as the elephant manager. This individual is responsible for (1) staff training; (2) developing and maintaining the program; and (3) communicating with others about the elephant program. The elephant manager must also demonstrate knowledge about all emergency protocols and continually improve elephant management techniques as the industry standards evolve.
- 6.2. All elephant managers must attend the AZA Principles of Elephant Management Course (BOD 3/25/03), preferably within 18 months following acceptance/promotion to the position. In addition, every elephant keeper is encouraged to attend this course. The BOD directs the Board of Regents to develop a mechanism for the PEM graduates to remain current in best practices in elephant management (BOD 3/25/03).
- 6.3. The BOD instructs the Board of Regents to hold best practices workshops on elephant management systems and transitioning from one management system to another (BOD 3/25/03).

7. Conservation, Education, and Research

7.1. Education Programs

- 7.1.1. Every institution should institute a program to educate zoo visitors about elephant and elephant conservation issues (EMA 1999, Smith and Hutchins 2000). Assistance is available from the Elephant SSP Education Advisor.
- 7.1.2. Every institution should have up-to-date educational graphics and/or information about elephants on display to the public.

7.2. Conservation and Research Activities

- 7.2.1. AZA zoos that currently exhibit or desire to exhibit elephants should make every effort to maintain elephants in their collections so that they can contribute to conservation through public education, scientific research, and the support of field conservation. Elephants are an important flagship species and the cornerstone of many members' African and Asian exhibit areas. (BOD 3/21/00)
- 7.2.2. Every institution should contribute in some way to elephant research activities (Keele and Dimeo-Ediger 1997, EMA 1999, Smith and Hutchins 2000). Involvement in one or more of the following disciplines is strongly recommended: behavior, cognition, reproduction, communication, enrichment, health (disease/pathology, nutrition), and education.
- 7.2.3. Every institution should contribute in some way to *in situ* conservation of elephants and their habitats (EMA 1999, Smith and Hutchins 2000).
- 7.2.4. AZA members are strongly encouraged to provide financial, personnel, logistical, and other support for priority research and conservation initiatives listed in the AZA Elephant SSP/TAG Action Plan (Wiese and Hutchins 1994).

8. Cooperative Management (BOD 3/21/00)

8.1. SSP Participation

- 8.1.1. SSP participants should be given highest priority in elephant dispositions, whether through breeding or importation.
- 8.1.2. AZA institutions should cooperate among themselves to pursue self-sustainability with their elephant populations. Since self-sustainable elephant populations are not possible currently within AZA, then cooperation with outside organizations should be considered on a case-by-case basis.
- 8.1.3. AZA zoos may provide elephants or their gametes to approved non-members on a case-by-case basis.

8.2. Importation

- 8.2.1. All elephant imports must be approved within the AZA Elephant SSP/TAG. Periodic importation may be used as a way to maintain population viability in the North American Elephant SSP/TAG population. The SSP/TAG and participating institutions will employ a combination of breeding and importation with the goal of eventually creating a self-sustaining population. When acquiring elephants for the SSP/TAG, first consider captive animals in substandard conditions in North America, then captive animals outside the U.S., then wild animals surplus to the needs of the managed population or those to be captured or killed because of human-animal conflicts (especially those that are going to be killed).

8.2.2. An effort should be made to assess the potential for cooperating with sister organizations, such as the European Association of Zoos and Aquariums (EAZA).

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ANIMAL CONTACT WITH THE GENERAL PUBLIC

Nearly every contact with other living organisms, whether it be with humans or other animals, carries some risk of disease transmission. Diseases that are spread from animals to humans are called zoonoses (adj. = zoonotic diseases). Responsible zoos should and do make reasonable attempts to limit the risk of the spread of disease from the animals in their care to their employees and to the general public.^{4,9} For the general public, the risk of contracting disease from most zoo animals is minimal to nonexistent due to their distance and isolation from the animals. However, contact areas for the general public can present increased risks that can be controlled with reasonable precautions. For this paper, contact areas refers to those areas in which there is direct physical contact between animals and people. These precautions are most effective when they are part of an overall preventative medicine program for the zoological park.^{5,8}

Risks of zoonotic disease can be markedly reduced by avoiding direct animal contact. However, this forgoes many valuable educational experiences and the establishment of a direct relationship between animals and the public. A reasonable alternative is adequate hand washing for those in direct contact with the animals. Hand washing is perhaps the single most effective personal hygiene procedure for reducing the risk of infection.⁴ Given that fact, all areas in which the public has direct contact with animals should have access to hand washing facilities that are in the immediate vicinity of the contact (or an equivalent; e.g., bacteriocidal hand-wipes).

As outlined by the AZA and the USDA's Animal Welfare Act, animal contact areas should always be supervised by a trained zoo representative. Obviously, animals that are ill, should not be used. Human food consumption should not occur in the immediate area of contact. Additionally, zoological institutions should be aware that the Centers for Disease Control (CDC) standards advise additional precautions may be necessary for humans that they classify as at increased risk of disease, including those that are immunocompromised. When a reportable disease is identified, all appropriate local, state, and federal regulatory officials should be contacted.

More detailed information on zoonotic diseases may be obtained from a variety of veterinary and medical textbooks and journals,¹⁶ and from public health officials. Additionally, the AZA's Quarantine Protocol provides further testing recommendations.⁷ Also referenced at the end of this report is a review of some of the risks associated with animals and immunocompromised humans.³ Following is a list of disease considerations and control programs recommended for animals commonly used in contact programs. Depending on the disease and history of the animals, testing protocols may vary from an initial or incoming quarantine test, to yearly repetitions. This protocol should be at the discretion of the institutional veterinarian.

Reptiles and Amphibians

Most notable among the disease risks presented by reptiles is the transmission of *Salmonella* sp. Salmonellosis is a common and often nonpathogenic infection of reptiles (in one survey, according to species, the infection rate ranged from 3 to 55 percent).² Diagnosis may be difficult. A cloacal swab or other sample positive on culture for *Salmonella* sp. is diagnostic for infection. However, due to intermittent fecal shedding of these organisms, false negative cultures frequently occur. So it is difficult, if not impossible to ascertain with certainty that an animal is *Salmonella* "negative". Therefore, all reptiles should be treated as *salmonella* carriers. Attempts to eliminate *Salmonella* carriers with antibiotic therapy have been unsuccessful and may be contraindicated as they can lead to chronic carrier states and increased resistance of these bacteria to antibiotics. Risks of transmission can be reduced in two ways: 1) avoid all direct contact with reptiles or surfaces with which they have come in contact, or, 2) allow only supervised contact followed by hand washing as previously described.

Reptiles can also transmit a variety of other organisms, mostly gastrointestinal in origin, and the same procedures described above should be effective in reducing the risks of transmission to those in contact. These other risks include other gram negative bacterial infections. Reptiles used in contact areas should be free of snake mites and pentastomids (e.g., *Armillifer* sp.).

Amphibians may present several of the same zoonotic risks as reptiles, so again, contact should be followed by hand washing.

Birds

Birds used in contact areas should be free of chlamydiosis and zoonotic parasites (e.g., giardia). Chlamydiosis testing is appropriate for members of the orders *Psittaciformes*, *Galliformes*, and *Columbiformes*. As in reptiles, salmonellosis can be present and difficult to diagnose and so, birds should be treated as suspects. In the general human population, avian tuberculosis is generally considered to have very low zoonotic potential, however, it can present significant risks for immunocompromised individuals. Care should be taken to avoid public contact with known infected flocks.

Mammals—General

All mammals are considered at risk for infection with rabies. Current rabies vaccines are licensed for use in only six domestic species: dogs, cats, ferrets, sheep, horses, and cows. For wild-caught individuals of most species, a prolonged (three-six month) quarantine is necessary to reduce the risk that they are infected with the virus. Even then, some species such as skunks, foxes, raccoons, and bats may still represent a greater risk.

Any skin lesions compatible with dermatomycosis (“ringworm”) should be carefully evaluated in order to prevent transmission to those in direct contact with them.

Mammals—Primates

Unless extensive testing has been performed for a variety of viral, parasitic, and bacterial diseases, all direct public contact with primates should be avoided. Public contact also places the primates at considerable risk of contracting diseases from humans.

Mammals—Small Ruminants/Neonatal Ruminants

All small ruminants; e.g., pygmy goats, sheep, dwarf cattle, llamas, etc., that are greater than six months of age and used in contact areas should be tested for tuberculosis, brucellosis, and leptospirosis. Obviously, any animals with lesions compatible with sarcoptic mange (mange mite = *Sarcoptes scabiei*) should be removed from contact. Any animals with lesions compatible with contagious erythema (“orf” in man) should be tested and removed from contact until proven negative. Calves should be checked and found free of *Cryptosporidium* sp. and other infections with protozoa. Other diseases of a potential zoonotic nature include infection with *Coxiella burnetii* (Q-fever) in endemic areas. Additionally, recent reports indicate that infection with Johnes disease (*Mycobacterium paratuberculosis*) may present zoonotic concerns, primarily in goats.

Mammals—Swine

These animals should be checked for gastrointestinal infection with *Balantidium* sp. efforts made to control this infection. Additionally, consideration should be given to regular vaccination for the bacterial disease, *Erysipelothrix rhusiopathae* (“diamond skin disease”).

Mammals—Small Carnivores

In general, due to the potential for bites, small carnivores should be used in contact areas only with extreme caution. Due to the risk of bites, small felids are generally not used in direct contact. If they are, care must be taken that such animals are negative for infection with *Toxoplasma gondii*. All carnivores should be tested for and be free of zoonotic species of roundworms such as *Baylascaris* sp. Small carnivores (e.g., raccoons and skunks) obtained from the wild may present a greater risk of rabies and their use should be avoided in contact areas.

Mammals—Rodents and Lagomorphs

When using rodents and lagomorphs in contact areas, consideration should be given to the risk of bites, past history, and exposure to hantavirus, salmonella, and tularemia.

Mammals—Chiroptera

At the present time, CDC regulations effectively prohibit the use of bats in direct contact areas.

Fish/Aquatic Tanks

Due to the potential for infection with atypical mycobacteria, *Vibrio* sp., *Erysipelothrix rhusiopathae*, and a variety of gram negative bacteria, contact with fish or touch tanks should also be followed by hand washing.

Summary

It is important to evaluate the risks of zoonotic diseases in a rational context. Contact animals can provide a valuable educational experience for visitors and participants in public programs to zoological parks and aquariums. Most zoonotic diseases of concern in public areas can be prevented with reasonable testing and quarantine programs and proper hand-washing techniques.

These are intended to be general guidelines and the risk of diseases can vary by area, so each zoological institution should develop its own zoonoses control program. Two excellent resources for reviewing testing and preventative procedures for many of these diseases are the American Association of Zoo Veterinarians' *Infectious Disease Notebook*,¹ and the American Veterinary Medical Association's *Zoonoses Updates*.⁶ In summary, the most effective method for disease prevention is a complete and thorough veterinary program and common sense sanitary measures.

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AGREEMENT BETWEEN FDA AND AZA REGARDING USE OF ANIMAL DRUGS

1. The drug administration programs at AZA accredited aquariums will be overseen by a licensed veterinarian and drugs administered by trained personnel.
2. Drugs will not be purchased for or diverted to the food fish aquaculture industry.
3. Approved drugs will be used wherever possible and extralabel use of approved drugs will follow FDA Compliance Policy Guidelines.
4. Clinical records will reflect source and quantity of medication, medication used, dosage or concentration, duration and dates of treatment, and disease and animal treated.
5. Visitors to aquariums and aquatic zoo exhibits will not be exposed to drugs used to treat fish.
6. Occupational Safety and Health Administration (OSHA) guidelines will be followed to protect staff from exposure to drugs used to treat fish.
7. Disposal of drugs used to treat fish diseases will follow applicable federal and state environmental guidelines.
8. Fishes treated with non-FDA-approved drugs for food fish will not be released into the wild without appropriate depuration.
9. The AZA will monitor its member institutions regarding these matters through its rigorous accreditation process.

FULL PARTICIPATION IN THE SSP
Adopted by the AZA Board of Directors
March 21, 2000

The Wildlife Conservation and Management Committee (“WCMC”) of the AZA held a meeting from August 15-17, 1999 to discuss strengthening AZA cooperative animal management programs. This meeting provided an opportune time to examine a number of internal and external policies and procedures that contribute to the success or failure of our Species Survival Plan or SSP programs. AZA’s entire system of cooperative animal management, ranging from record-keeping to data analysis to collection planning to SSP coordinator responsiveness to member’s needs to institutional compliance with SSP recommendations was considered.

Cooperative animal management and conservation are among AZA’s primary goals. These goals are best exemplified by our shared commitment to AZA’s cornerstone animal management/conservation program: The Species Survival Plan. The AZA Board of Directors recognizes that:

- (1) cooperative management is critical to the long term survival of professionally managed zoological parks and their valuable and often irreplaceable animal collections; and,
- (2) that all AZA-accredited institutions and related facilities should be fully committed to the goals and cooperative spirit of the SSP partnership.

Therefore, after March 2000, the Board will require full participation by all AZA member institutions in the SSP partnership and process. Full participation in the SSP partnership and process will be defined as follows:

All AZA Members owing or holding SSP taxa, or supporting a SSP program without holding animals must assign an institutional representative to the SSP. (The institutional representative (IR) will be the primary point of contact with participating institutions).

Institutions must provide all relevant data on their animal collections to the SSP Coordinator and studbook keeper.

All AZA Member owning, holding, and supporting institutions must state the level at which they can participate (breeding, holding, or support).

All AZA Member owning, holding, and supporting institutions will be required to participate in the SSP partnership process. Any disagreements, whether from the perspective of the SSP or the participating institutions, will be mediated by the Conflict Resolution Process (see below).

In order to ensure that the SSP process is thorough, efficient and equitable there needs to be refinements in both the master planning process and how conflicts are resolved. The coordinators and IR’s must have the opportunity to have input into the master planning process and have a fair chance to address any questions or conflicts over the recommendations. Towards those ends the master planning process will be more standardized and will require that:

- A draft of the SSP master plan and recommendations is published on the AZA web site and

open to comment for 30 days.

- A standard master plan report format is used.
- There must be a written record of recommendations.
- As many IRs as possible participate in the master planning process to increase the likelihood of institutional support.
- The best available method (electronic, hard copy, fax, website) be used for SSP communications with participating institutions.
- SSP management groups must be responsible for representing the taxon and the association at large – not their individual institution.
- Directors are notified (via the listserv and website) of master plan recommendations. Written recommendations will be provided at the request of the director.

These requirements will ensure that all institutions have input into the process and that the institutions have access to and fully comprehend the SSP's recommendations. If all holding institutions have the chance to be active participants in the master planning process, then fewer conflicts should arise over the results. However, if conflict does arise, participants are required to utilize the following Conflict Resolution Checklist to guide their actions. The checklist can be initiated either by the SSP Coordinator or the participating institution:

Attempt to resolve the conflict through a telephone conversation: A professional and courteous telephone inquiry is often all that is necessary to clear up conflicts resulting from missed communications. Each party should keep notes on the conversation(s). If a resolution is reached over the telephone, the initiating party should confirm the decision in a letter that briefly details the problem and the agreed upon solution. This letter should refer to all previous communications on the subject.

Document the nature of the conflict in writing: If the issue(s) cannot be resolved over the telephone, then the conflict must be documented in writing. The first step toward resolution of any conflict is to clearly identify and agree upon the problem. This documentation should be in the form of a letter, either from the Species Coordinator to the Institutional Representative or vice versa. The letter should clearly state the nature of the problem and any actions taken. If possible, the letter should pose reasonable alternatives or solutions to the conflict. A copy of this Conflict Resolution Process should be included with the documentation.

Refer the matter to the SSP Management Group: If the initial exchange of letters does not produce a satisfactory resolution of the problems, the initiating party will refer this issue, in writing, to the Management Group for discussion and development of additional options and or actions. The management group will vote to determine if a resolution is possible or if the next step in the process should be taken, within 30 days of the dated referral. The management group has the option to consult the appropriate Taxon Advisory Group (TAG) for assistance in resolving the conflict. The Species Coordinator must accede to the management group's recommendation.

Communicate conflict to institutional director, TAG and WCMC Chair: When a matter is referred to the Management Group, the Species Coordinator will provide copies of all documents to the institutional director, the relevant TAG Chair and the Chair of the WCMC. The Institutional Representative will copy his or her immediate supervisor and institutional director. The institution will make an effort to resolve the conflict with the SSP.

Refer the matter to WCMC: If the conflict cannot be resolved at an institutional level within 30 days after being notified of the Management Group decision, then the matter will be arbitrated by a subgroup of WCMC. The WCMC Chair, two members of WCMC (one selected by each of the parties in conflict), the SSP Coordinator, and a representative designated by the institution should conduct a confidential review of the problem and formulate a final resolution. This may occur in person at a meeting, or via a conference call. Within five working days, the WCMC Chair will provide a written report communicating the decision to the WCMC, the TAG, the SSP Management Group, the SSP Coordinator, the institutional director, the Institutional Representative and the AZA Conservation and Science Office.

Note that this conflict resolution process is a two-way process: The arbitrators may opt to suspend or expel an institution from the SSP. If the institution involved is an AZA member, a summary of the arbitration process and decision will be forwarded to the Accreditation Commission for inclusion the institution's accreditation file. The arbitrators may also determine that an SSP Coordinator is at fault. If that occurs the SSP Coordinator may be subject to sanction, including being placed on probation or being removed from the position.

AZA ACQUISITION / DISPOSITION POLICY

Adopted by the AZA Board of Directors

March 21, 2000

I. INTRODUCTION

The American Zoo and Aquarium Association (AZA) was established, among other reasons, to foster continued improvement in the zoological park and aquarium profession. One of its most important roles is to provide a forum for debate and consensus building among its members, the intent of which is to attain high ethical standards, especially those related to animal care and professional conduct. The stringent requirements for AZA accreditation and high standards of professional conduct are unmatched by similar organizations and also far surpass the United States Department of Agriculture's Animal and Plant Health Inspection Service's requirements for licensed animal exhibitors. AZA member facilities must abide by a Code of Professional Ethics - a set of standards which guide all aspects of animal management and welfare. As a matter of priority, AZA institutions should access animals from other AZA institutions and de-access animals to other AZA institutions.

AZA accredited zoological parks and aquariums cannot fulfill their important missions of conservation, education and science without living animals. Responsible management of living animal populations necessitates that some individuals be acquired and that others be removed from the collection at certain times. Acquisition of animals can occur through propagation, trade, donation, loan, purchase, capture, or rescue. Food animals are not accessioned into the collection. Disposition occurs when an animal leaves the institution for any reason. Reasons for disposition vary widely, but include cooperative population management (genetic or demographic management), reintroduction, behavioral incompatibility, sexual maturation, animal health concerns, temporary loan or transfer, or death. The AZA Acquisition/Disposition Policy (A/D) was created to help (1) guide and support member institutions in their animal acquisition and disposition decisions, and (2) ensure that all additions and removals are compatible with the Association's stated commitment to "save and protect the wonders of the living natural world." More specifically, the AZA A/D Policy is intended to:

1. ensure that the welfare of individual animals and conservation of populations, species and ecosystems are carefully considered during acquisition and disposition activities;
2. maintain a proper standard of conduct for AZA members during acquisition and disposition activities; and
3. ensure that animals from AZA member institutions are not transferred to individuals or organizations that lack the appropriate expertise or facilities to care for them.

The AZA Acquisition/Disposition Policy will serve as the default policy for AZA member institutions. Institutions may develop their own A/D Policy in order to address specific local concerns. Any institutional policy must incorporate and not conflict with the AZA acquisition and disposition standards.

Violations of the AZA Acquisition/Disposition Policy will be dealt with in accordance with the AZA Code of Professional Ethics. Violations can result in an institution's or individual's expulsion from membership in the AZA.

II. GROUPS OR COLONY BASED IDENTIFICATION

For some colonial, group-living, or prolific species, such as certain insects, aquatic invertebrates, schooling fish, rodents, and bats, it is often impossible or highly impractical to identify individual specimens. These species are therefore maintained, acquisitioned, and disposed of as a group or colony. Therefore, when this A/D Policy refers to animals or specimens, it is in reference to both individuals and groups/colonies.

III. ACQUISITION REQUIREMENTS

A. General Acquisitions

Animals are only to be acquisitioned into an AZA member institution's collection if the following conditions are met:

1. Acquisitions must meet the requirements of all applicable local, state, federal and international regulations and laws.
2. The Director or Chief Executive Officer of the institution is charged with the final authority and responsibility for the monitoring and implementation of all acquisitions.
3. Acquisitions must be consistent with the mission of the institution by addressing its exhibition/education, conservation, and/or scientific goals.
4. Animals that are acquired for the collection, permanently or temporarily, should be listed on institutional records.
5. Animals may be acquired temporarily for reasons such as, holding for governmental agencies, rescue and/or rehabilitation, or special exhibits. Animals should only be accepted if it will not jeopardize the health, care or maintenance of the animals in the permanent collection or the animal being acquired.
6. Animals that are acquired by birth should be listed on an institution's records. For some species which are known to have a relatively high neonatal mortality rate, for example fishes, the recording of birth may occur after the animal reaches 30 days of age.
7. The institution must have the necessary resources to support and provide for the professional care and management of a species, so that the physical and social needs of both specimen and species are met.
8. Attempts by members to circumvent AZA conservation programs in the acquisition of SSP animals are detrimental to the Association and its conservation programs. Such action may be detrimental to the species involved and could be construed as a violation of the Association's Code of Professional Ethics. All AZA members should work through SSP species coordinators and appropriate propagation groups in efforts to access SSP species.
9. Animals are only to be acquired from a reputable source. In determining the reputation of a source any convictions of federal, state, or international wildlife laws should be reviewed, as well as any previous dealings with other AZA accredited institutions.

B. Acquisitions From the Wild

The establishment of long-term, self-replicating, wild animal populations for education and wildlife conservation purposes is a unique responsibility of AZA member zoos and aquariums. To accomplish these goals, it may be necessary to acquire wild-caught specimens. When accessing animals from the wild, careful consideration must be taken to evaluate the long-term impacts on the wild population. Any capture of free-ranging animals should be done in accordance with all local, state, federal, and international wildlife laws and regulations and not be detrimental to the long-term viability of a population or species. In crisis situations, when the survival of a population is at risk, rescue decisions are to be made on a case-by-case basis.

IV. DISPOSITION REQUIREMENTS

A. Living Animals

Successful conservation and animal management efforts rely on the cooperation of many entities, both within and outside of AZA. While preference is given to place animals within AZA member institutions, it is important to foster a cooperative culture among those who share the primary mission of AZA accredited facilities. The AZA draws a strong distinction between the mission, stated or otherwise, of non-member organizations and the mission of professionally managed zoological parks and aquariums accredited by the AZA. An accredited AZA member balances public display, recreation, and entertainment with demonstrated efforts in education, conservation, and science. While some non-member organizations may meet minimum daily standards of animal care for wildlife, the AZA recognizes that this, by itself, is insufficient to warrant either AZA membership or participation in AZA's cooperative animal management programs. When an animal is sent to a non-member of AZA, it is imperative that the member be confident that the animal will be cared for properly.

Animals may only be disposed of from an AZA member institution's collection if the following conditions are met:

1. Dispositions must meet the requirements of all applicable local, state, federal and international regulations and laws.
2. The Director or Chief Executive Officer of the institution is charged with the final authority and responsibility for the monitoring and implementation of all dispositions.
3. Any disposition must abide by the Mandatory Standards and General Advisories of the AZA Code of Professional Ethics (see Appendix I). Specifically, "a member will make every effort to assure that all animals in his/her collection and under his/her care are disposed of in a manner which meets the current disposition standards of the Association and do not find their way into the hands of those not qualified to care for them properly."
4. Animals shall not be disposed of at animal auctions. Additionally, animals shall not be disposed of to any organization or individual that may use or sell the animal at an animal auction. In transactions with AZA non-members, the recipient must ensure in writing that the animal will not be disposed of at a wild animal auction or to an individual or organization which allows the hunting of the animal.
5. Animals shall not be disposed of to organizations or individuals that allow the hunting of these animals or their offspring. This does not apply to individuals or organizations which allow the hunting of only free-ranging game species (indigenous to North America) and established long-introduced species such as, but not limited to, white-tailed deer, quail, rabbit, waterfowl, boar, ring-necked pheasant, chukar, partridge, and trout. AZA distinguishes hunting for sport from culling for sustainable population management and wildlife conservation purposes.
6. Attempts by members to circumvent AZA conservation programs in the disposition of SSP animals are detrimental to the Association and its conservation programs. Such action may be detrimental to the species involved and could be construed as a violation of the Association's Code of Professional Ethics. All AZA members should work through SSP species coordinators and appropriate propagation groups in efforts to de-access SSP species.
7. Domesticated animals are to be disposed of in a manner consistent with acceptable farm practices and subject to all relevant laws and regulations.
8. Live specimens may be released within native ranges, subject to all relevant laws and regulations. Release may be a part of a recovery program and any release must be compatible with the AZA Guidelines for Reintroduction of Animals Born or Held in Captivity, dated June 3, 1992.
9. Detailed disposition records of all living or dead specimens must be maintained. Where applicable, proper animal identification techniques should be utilized.

10. It is the obligation of every loaning institution to monitor, at least annually, the conditions of any loaned specimens and the ability of the recipient to provide proper care. If the conditions and care of animals are in violation of the loan agreement, it is the obligation of the loaning institution to recall the animal. Furthermore, an institution's loaning policy must not be in conflict with this A/D Policy.

11. If live specimens are euthanized, it must be done in accordance with the established policy of the institution and the Report of the American Veterinary Medical Association Panel on Euthanasia (Journal of the American Veterinary Medical Association 202 (2): 229-249, 1993).

12. In dispositions to non-AZA members, the non-member's mission (stated or implied) must not be in conflict with the mission of AZA, or with this A/D Policy.

13. In dispositions to non-AZA members facilities which are open to the public, the non-member must balance public display, recreation, and entertainment with demonstrated efforts in conservation, education, and science.

14. In dispositions to non-AZA members, the AZA members must be convinced that the recipient has the expertise, records management capabilities, financial stability, and facilities required to properly care and maintain the animals. It is recommended that this documentation be kept in the permanent record of the animals at the AZA member institution.

15. If living animals are sent to a non-member research institution, the institution must be licensed under the Animal Welfare Act by the U.S. Department of Agriculture Animal and Plant Health Inspection Service. For international transactions, the receiving facility should be licensed by that country's equivalent to the Animal Welfare Act. In all cases, the research must be for the direct benefit of the individual or species.

B. Dead Specimens

Dead specimens are only to be disposed of from an AZA member institution's collection if the following conditions are met:

1. Dispositions of dead animals must meet the requirements of all applicable local, state, federal and international regulations and laws.
2. Maximum utilization is to be made of the remains, which could include use in educational programs or exhibits.
3. Consideration is given to scientific projects that provide data for species management and/or conservation.
4. Records are to be kept on all dispositions, including animal body parts, when possible.
5. SSP and TAG necropsy protocols are to be accommodated insofar as possible.

V. PETS AND THE PET TRADE

AZA member institutions recognize the importance of pets, but believe the vast majority of wild animals do not make good pets. However, there are a few cases where disposition to private, established hobbyists and reputable pet industry groups, can be both beneficial to the individual animal and the survival of the species. Particularly, cases where providing zoo / aquarium bred animals will lesson and possibly eliminate the need for animals to be taken from the wild to support the pet trade. The most common examples deal with some fish, coral, bird and reptile species. In all cases, the welfare of the individual as well as the survival of the species are of primary concern.

In addition to the requirements listed in earlier sections, an animal is only to be disposed of from an AZA member institution's collection if the following conditions and regulations are met:

1. No animal should be disposed of to private hobbyists or the pet industry if it would create a public health risk, create a safety risk, or have a negative impact on the conservation of that species.
2. Under no circumstances are primates to be disposed of to a private individual or to the pet trade.
3. Inherently dangerous wild animals do not make suitable pets. Dispositions to the pet trade should be examined on a case by case basis and the advice and support of the AZA sub-groups, such as the Taxon Advisory Groups (TAGs), are to be sought in determining the impact on the individual and species.
4. Fish and aquatic invertebrate species that meet ANY of the following, are inappropriate to be disposed of to private individuals or the pet trade:
 - ▶ species that grow too large to be housed in a 72-inches-long aquarium (the largest tank commonly sold in retail pet stores)
 - ▶ species that require extraordinary life support equipment to maintain an appropriate captive environment (e.g. cold water fish & invertebrates)
 - ▶ species deemed noxious (e.g. grass carp)
 - ▶ species capable of inflicting a serious bite or venomous sting (e.g. piranha, lion fish, or blue-ringed octopus)
 - ▶ species that are of wildlife conservation concern
5. No animal is to be disposed of if close human interactions poses a threat of the spread of disease to the animal and/or human.

VI. TRANSACTION FORMS

AZA member institutions will develop transaction forms to record animal acquisitions and dispositions. These forms will require the potential recipient or provider to adhere to the AZA Code of Professional Ethics, the AZA Acquisition/Disposition Policy, and all relevant AZA and member policies, procedures and guidelines. In addition, transaction forms must insist on compliance with the applicable laws and regulations of local, state, federal and international authorities.

CODE OF PROFESSIONAL ETHICS

PREAMBLE

The continued existence of zoological parks and aquariums depends upon recognition that our profession is based on the respect for the dignity of the animals in our care, the people we serve, and most importantly, for each other. Members of the American Association of Zoological Parks and Aquariums (known as American Zoo and Aquarium Association or "AZA") have an important role in the preservation of our heritage. To fulfill this role, we must understand the relationships we share with the public, the animals under our care, and with each other. A consequent obligation of membership is to maintain high standards of ethical conduct. Members must have the courage and foresight to live up to their responsibilities within principles of professionalism.

A code of ethics provides standards by which we can judge our professional conduct. We must find in our consciences the point against which to test our actions. It is our desire to maintain the respect and confidence of fellow members and the public that ought to provide us with incentive for the highest degree of ethical conduct. The possible loss of that respect and confidence numbers among the severest sanctions possible.

So long as our profession is guided by these principles, ours will continue to be a respected profession.

CODE OF PROFESSIONAL ETHICS

The following Code of Professional Ethics of the American Zoo and Aquarium Association (AZA) shall form the basis for all disciplinary actions of the Association.

Deviation by a member from the AZA Code of Professional Ethics or from any of the rules officially adopted by the Board of Directors supplemental thereto, or any action by a member that is detrimental to the best interest of the zoo and aquarium profession and the AZA, shall be considered unethical conduct. The member shall be subject to investigation by the AZA Ethics Board and, if warranted, to disciplinary action by the Ethics Board and/or the AZA Board of Directors. The Code is intended as an inspirational guide for members and as a basis for disciplinary action.

This Code cannot apply to nonmembers, except as they have agreed to follow the Code in a signed agreement to participate in an AZA program. This Code defines the type of ethical conduct the public has a right to expect, not only of staff members of an institution but also of their nonprofessional employees and associates in all matters pertaining to professional zoological park and aquarium employment. The director and/or governing authority of a member institution should ultimately be responsible for the conduct of their employees and others affiliated with the member institution.

The Obligations of Professional Ethics set forth are aspirational in character and represent the objectives towards which every member should strive.

The Code's Mandatory Standards, unlike the Obligations of Professional Ethics, are mandatory in character and, if violated, may result in disciplinary action. The Mandatory Standards, to be uniformly applied to all members, establish a level of conduct below which no member may fall without being subject to disciplinary action. The Code makes no attempt to prescribe either disciplinary procedures or penalties for violation of Mandatory Standards. The severity of judgment against a member found to be in violation of a Mandatory Standard shall be determined by the character of the offense and the attendant circumstances. The Ethics Board, in applying the Mandatory Standards, may find interpretive guidance in the basic principles embodied in the standards and objectives reflected in the Obligations of Professional Ethics.

The Board of Directors and Ethics Board shall be responsible for interpreting the Code of Professional Ethics, subject to all provisions of the Charter and Bylaws. The Ethics Board shall investigate allegations, render decisions, and prescribe subsequent actions and/or penalties. An appeal may be made to the AZA Executive Committee within thirty (30) days of the date of mailing the Ethics Board decision to the complainant and defendant. Appeals may be granted if the Executive Committee concludes that the complainant or defendant appealing the Ethics Board decision has demonstrated that (1) there are new facts, not known at the time of the Ethics Board investigation, which the Executive Committee believes may have changed the outcome; or (2) the Ethics Board did not follow relevant AZA procedures; or (3) the penalty recommended by the Ethics Board was excessive under the circumstances. An appeal shall be granted upon a majority vote of the AZA Executive Committee. If the request for an appeal is granted, the Board of Directors shall hear the appeal at its next regularly scheduled meeting. The appellate decision of the Board of Directors shall be final and cannot be appealed.

I. OBLIGATIONS OF PROFESSIONAL ETHICS

In order to promote high standards of conduct in our profession, the AZA has formulated the following basic principles for the guidance of its members:

AS A MEMBER OF THE AZA, I PLEDGE TO:

- A. Realize that I have moral responsibilities not only to my professional associates, my fellow employees, and the public, but also to the animals under my care.
- B. Display the highest integrity, the best judgment or ethics possible, and use my professional skills to the best interests of all.
- C. Deal fairly with members in the dissemination of professional information and advice.
- D. Use only legal and ethical means when seeking to influence governmental legislation or regulations.
- E. Promote the interests of wildlife conservation, biodiversity, and animal welfare to the public and to colleagues.
- F. Maintain high standards of personal, professional, and business conduct and behavior.
- G. Promote the interests of AZA and do my full share of work in support of the concepts and ideals of AZA.
- H. Cooperate with qualified zoos/aquariums and other qualified persons/organizations in breeding programs of endangered and other species.
- I. Aid the professional development of those who enter the zoological park and aquarium profession by assisting them to understand the functions, duties, and responsibilities of the profession.
- J. Seek opportunities to be of constructive service in civic affairs and, to the best of my ability, advance the understanding of all nature to the community in which I live.
- K. Encourage publication of significant achievements in breeding husbandry, medical technology, architecture, etc., in the appropriate publications generally familiar to members.
- L. Endeavor at all times to improve zoos and aquariums.

II. MANDATORY STANDARDS

- 1. MAINTAINING INTEGRITY AND COMPETENCE OF THE ZOOLOGICAL PARK AND AQUARIUM PROFESSION
 - a. A member shall make no materially false statement or deliberately fail to disclose a material fact in connection with an application for membership or accreditation in AZA.
 - b. A member shall not endorse the application for membership in AZA of a person known by that member to be unqualified in respect to character, education, length of service, or some other relevant factor.
- 2. MISCONDUCT
 - a. A member shall not violate a Mandatory Standard.
 - b. A member shall not solicit the aid of another individual to circumvent, or assist another to violate, a Mandatory Standard.

- c. A member shall not knowingly engage in activities contrary to local, state, federal, or international laws as such laws relate to our profession; and a member will, to the best of his or her ability, cooperate with governmental agencies regulating animal welfare and animal transactions.
 - d. A member shall not engage in conduct that adversely affects, or is prejudicial to, the concepts and ideals of the AZA.
 - e. A member shall make every effort to assure that all animals in his/her collection and under his/her care are disposed of in a manner which meets the current disposition standards of the Association and do not find their way into the hands of those not qualified to care for them properly.
3. DISCLOSURE OF INFORMATION
- a. A member shall not knowingly misinform others regarding animal records or specimen disposition, professional information, and advice.
 - b. A member shall not alter animal records or alter the facts concerning age, condition, or other material information about any animal in order to affect the sale, trade, loan, or other transaction with respect to such animal.
 - c. A member shall immediately bring to the attention of the Ethics Board of the AZA any information concerning a clear violation of a Mandatory Standard.
 - d. A member shall issue no statement to the public which he/she knows (or should know) to be false or misleading.

GENERAL ADVISORIES

The policies outlined below have been previously adopted by the AZA Board of Directors and are considered to expand the interpretation of the AZA Code of Professional Ethics that was developed to guide ethical conduct of all members. Amendments can be proposed by the AZA Board of Directors, the Ethics Board, and/or AZA members. Any proposed changes shall be reviewed by the Ethics Board and, as appropriate, by legal counsel. Proposed changes shall be submitted to the AZA Board of Directors for action.

Animal Auctions (1981)

AZA members offering wildlife for sale at auctions attended by the general public are in violation of the AZA Code of Professional Ethics, specifically Mandatory Standards, 2-e, which states, "As a member of AZA, I pledge to...make every effort to assure that all animals...do not find their way into the hands of those not qualified to care for them properly."

Use of Animal Exchange (1984)

Individuals may utilize Animal Exchange to purchase specimens if the following criteria are followed: the individual should, during the initial contact, identify his or her intentions and make the seller aware if the specimen(s) will go to the purchaser's private collection and not the zoo in question (adopted by the Ethics Board at the direction of the AZA Board).

Notification of Ethics Code Violations (1986-revised 1993)

Copies of all final actions (the denial of an appeal to the Executive Committee or notification to the complainant and defendant of the appellate decision) regarding violations of the Code of Professional Ethics shall be sent to the Director, Chief Executive Officer, or Governing Authority of the institution of the defendant(s) involved. Such final actions shall be published in Communiqué, including a brief and factual statement of the action, including the name(s) of the defendant(s) involved in the violation and a listing of the sections of the Code which were violated to provide guidance for AZA members.

Procurement of SSP Animals (1986-modified 1990-revised 1993)

Attempts by members to circumvent AZA conservation programs in the procurement and/or disposition of specimens of SSP animals are detrimental to the Association and its conservation programs. Such action may be detrimental to the species involved and could be construed as a violation of the Association's Code of Professional

Ethics. All Association members should work through SSP species coordinators and appropriate propagation groups in efforts to procure or dispose of specimens of SSP species.

ETHICS BOARD

The Ethics Board, elected by the membership, has separate duties from the AZA Board of Directors. The Ethics Board shall consist of nine (9) members. The Ethics Board proposed guidelines on the function of the Ethics Board for consideration during the San Diego Annual Conference in 1977. The AZA Board of Directors unanimously adopted these guidelines and revised them in 1993:

All Ethics Board matters shall be handled in accordance with the objectives and standards of the Association's Code of Professional Ethics.

Matters called to the attention of the Ethics Board must be in writing and addressed to the Chairman or any member of the Ethics Board. The ethics charge must be signed by the complainant and must contain a full statement of the matter to be reviewed by the Ethics Board.

An individual filing an ethics complaint shall be advised that full disclosure of the complaint shall be made available to all parties concerned. At this time, the complainant has the right to withdraw the complaint; and thus, the matter will be closed.

The Ethics Board, the complainant, and the defendant shall at all times during the investigation maintain strict confidentiality regarding the case.

The initial responsibility of the Ethics Board is to determine the validity of the charge(s). If the charge(s) appears to be valid, the Ethics Board shall initiate a full investigation. Once a full investigation is initiated, the Ethics Board must determine if an Ethics Code violation has occurred and what action and/or penalty is necessary. In making its determination, the Ethics Board shall consult, where necessary or appropriate, with AZA legal counsel. The Ethics Board has the responsibility and authority to issue a judgment and determine disciplinary actions. The AZA Board of Directors serves as an appellate board.

The AZA Board of Directors may also direct the Ethics Board to perform additional duties as needed.

The following procedures are hereby established:

The Chairman of the Ethics Board will distribute copies of all duly received ethics complaints to members of the Ethics Board, the AZA President, Executive Director, Deputy Director, and the AZA Board Liaison to the Ethics Board. All correspondence pertaining to the case shall be marked "Confidential." The Chairman shall request each Ethics Board member to render an opinion as to the validity of the complaint and make a recommendation on how to proceed and action to be taken.

The Chairman shall review all recommendations, suggest an Ethics Board action and, if necessary, arrange an appearance before the Ethics Board and/or a site visitation.

The Ethics Board may dismiss any charge for which there is insufficient evidence to pursue the investigation or for which there is no apparent violation of the Ethics Code. The complainant, defendant, and the Board of Directors shall be notified by the Ethics Board of the decision, for which there is no appeal.

The Ethics Board may determine that there is no clear violation or proof of a violation but that there is concern about the conduct of a member. The Ethics Board may issue a letter of concern.

If the Ethics Board determines that a violation of the Code has occurred, the following options shall be considered: (A) Letter of Reprimand from the Ethics Board. (B) Letter of Reprimand from the Ethics Board and the AZA Board of Directors. (C) Censorship and suspension of certain membership privileges (up to 2 years), to be determined on a case-by-case basis. (D) Expulsion from AZA membership for a minimum of two years. The Ethics Board may function as an investigative body as it determines whether or not a violation has occurred. The Ethics Board shall make its determination based upon the greater weight of the evidence presented to it. Ethics matters often do not involve legal matters but are founded on moral values and industry standards and practices.

Where necessary or appropriate, the Ethics Board shall consult with AZA legal counsel.

The Ethics Board shall deliberate, during a meeting or conference call, on the final determination and action to be taken. Actions by the Ethics Board shall require a two-thirds (2/3) vote of its members. When a two-thirds (2/3) majority vote of guilty is not received the issue shall be dropped.

The Chairman of the Ethics Board shall submit a report to the President, Executive Director, Deputy Director, AZA Board Liaison Representative, and legal counsel, if necessary, with the Ethics Board's findings and course of disciplinary action to be taken prior to advising the complainant and defendant.

The Chairman of the Ethics Board shall advise the complainant and the defendant of the findings and action taken by the Ethics Board.

An appeal may be made to the AZA Executive Committee within thirty (30) days of the date of mailing the Ethics Board decision to the complainant and defendant. Appeals may be granted if the Executive Committee concludes that the complainant or defendant appealing the Ethics Board decision has demonstrated that (1) there are new facts, not known at the time of the Ethics Board investigation, which the Executive Committee believes may have changed the outcome; or (2) the Ethics Board did not follow relevant AZA procedures; or (3) the penalty recommended by the Ethics Board was excessive under the circumstances. Appeals shall be granted upon a majority vote of the AZA Executive Committee. The AZA Board of Directors shall hear the appeal at its next regularly scheduled meeting. The appellate decision of the Board of Directors shall be final and cannot be appealed.

At least one member of the Ethics Board shall be present during the appeal.

The Ethics Board shall notify the complainant and the defendant of the final action of the AZA Board of Directors once the appellate decision has been rendered.